ORDER NO. MKE0001201C1

B15 (U.S.A.), B4 (CANADA, PUERTO RICO)

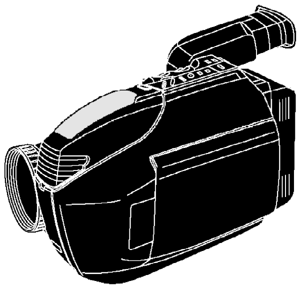
Service Manual

Compact VHS Camcorder

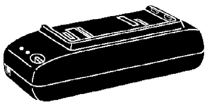
Palmcorder VHS C

PalmSight™

PV-L750 / PV-L780 / PV-L850



MODELS: PV-L750/ PV-L780
PV-L850



MODELS: PV-A17/ PV-A18

SPECIFICATIONS

ITEM	SPECIFICATION	1	2	3	4
Power Source	Compact VHS Camcorder: DC 6 V AC Adaptor: 110/120/220/240 V AC, 50/60 Hz Battery: Nickel-Cadmium Type DC 6 V	○	○	○	○
Power Consumption	Compact VHS Camcorder: 6 V DC 8.5 W (Max. 11.5 W) AC Adaptor: 24 W 1.2 W (when not in use.)	○	○	○	○
Video Signal	EIA Standard (525 lines, 60 fields) NTSC color signal	○	○	○	○
Video Recording System	Head: 2 rotary heads plus flying erase head. Helical scanning system 4 rotary heads plus flying erase head. Helical scanning system Signal-to-Noise Ratio: SP: more than 43 dB SLP: more than 41 dB Horizontal Resolution (Color/Monochrome) Recording: more than 300 lines Playback: more than 230 lines	○ – ○ ○ ○ ○	○ – ○ ○ ○ ○	– ○ ○ ○ ○ ○	– ○ ○ ○ ○ ○
Audio	Head: Normal Mono: 1 stationary head MIC Input Level (M3 type) - 70 dB Frequency Response: Normal Mono: SP: 100 Hz - 8 kHz SLP: 100 Hz - 5 kHz Signal-to-Noise Ratio: Normal Mono: SP: more than 42 dB SLP: more than 40 dB	○	○	○	○
Tape Speed	SP: 1-5/16 i.p.s (33.35 mm/s), SLP: 7/16 i.p.s (11.12 mm/s) Record/Playback Time: SP: Max. 30 min, SLP: Max. 90 min, with TC-30 Tape FF Time: Less than 7 min. (TC-30 Tape) REW Time: Less than 4 min. (TC-30 Tape)	○	○	○	○
Tape Format	Tape width 0.5 inch (12.7 mm) high density tape	○	○	○	○
Pick-Up System	Sequential color difference field reverse system	○	○	○	○
Pick-Up Device	One integral color filter Charge Coupled Device (CCD)	○	○	○	○

ITEM	SPECIFICATION	1	2	3	4
Lens	26 : 1 zoom lens, F1: 1.6 with auto iris control Focal length: 3.8 mm - 98.8 mm (4.5 mm - 117 mm: When recording.) (43.2 mm - 1123.2 mm: When converted to a 35 mm still camera.) 4 speed power zoom function Lens filter diameter: 49 mm	○ ○ – – ○ ○	○ ○ – – ○ ○	○ ○ – – ○ ○	○ ○ ○ ○ ○ ○
Viewfinder	10.2 mm (0.4 inch) Electronic Viewfinder 11.2 mm (0.44 inch) Liquid Crystal color Electronic Viewfinder	○ –	– ○	○ –	○ –
LCD Monitor	101.6 mm (4.0 inch) Liquid Crystal Display 76.2 mm (3.0 inch) Liquid Crystal Display	○ –	– ○	○ –	○ –
Memory	8 MB CompactFlash Card	○	○	○	○
Image Size	FINE: 640 x 480 pixels Normal: 320 x 240 pixels	○	○	○	○
Image Storage	FINE: Approx. 60 images Normal: Approx. 240 images	○	○	○	○
Image Format	JPEG	○	○	○	○
Minimum Illumination Required	0.8 lx (F1: 1.6) 0.08 footcandles 7 lx (F1: 1.6) 0.7 footcandles (EIA Standard) 2.0 lx (F1: 1.6) 0.20 footcandles 10 lx (F1: 1.6) 1.0 footcandles (EIA Standard)	○ ○ – –	○ ○ – –	○ ○ – –	– – ○ ○
Operating Condition	0 °C~40 °C (32 °F~104 °F) (Temperature) 10 %~75 % (Humidity)	○	○	○	○
Weight	1.09 kg (2.40 lbs.) 1.08 kg (2.38 lbs.) 1.10 kg (2.43 lbs.)	○ – –	– ○ –	○ – –	– – ○
Dimension	107 mm x 118 mm x 180 mm (W x H x D) (4-1/4 inch x 4-5/8 inch x 7-1/8 inch) (W x H x D)	○	○	○	○

1. PV-L750
2. - - - - - - -
3. PV-L780
4. PV-L850

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

Regarding the Service Manual of the AC Adaptor for model PV-A17, please refer to the Service Manual / Order No. MKW9512M302 and regarding the Service Manual of the AC Adaptor for model PV-A18, please refer to the Service Manual / Order No. MKE0001202C1.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

Note: AC Adaptor used with Camcorders (PV-L750, PV-L780) is PV-A17.
AC Adaptor used with Camcorder (PV-L850) is PV-A18.
The Service Manuals for AC Adaptor (PV-A17, PV-A18) are a separate volume.
Please refer to following manuals for PV-A17, PV-A18.
Order number for AC Adaptor (PV-A17) Service Manual: MKW9512M302.
Order number for AC Adaptor (PV-A18) Service Manual: MKE0001202C1.

1. SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. IMPORTANT SAFETY NOTICE
   There are special components used in this equipment which are important for safety. These parts are marked by⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

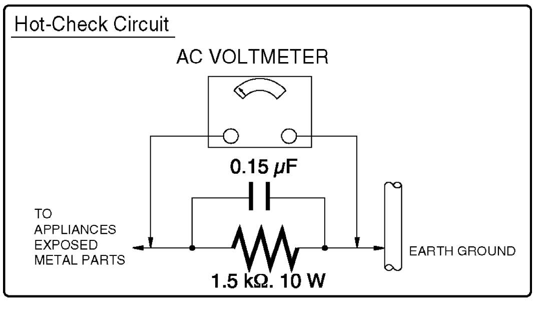
1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the

equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M Ω and 5.2 M Ω . When the exposed metal does not have a return path to the chassis, the reading must be infinity.

LEAKAGE CURRENT HOT CHECK
(See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 k Ω , 10 W resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 M Ω /V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the /limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Figure. 1



2. PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. **Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.**
2. **After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.**
3. **Use only a grounded-tip soldering iron to solder or unsolder ES devices.**
4. **Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.**
5. **Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.**
6. **Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).**
7. **Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.**
   CAUTION :
   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. **Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing**

together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

3. X-RADIATION (Model: A, C, D)

WARNING :

1. The potential source of X-Radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10 kV without causing X-Radiation.

   NOTE :

   It is important to use an accurate periodically calibrated high voltage meter.
3. Measure the High Voltage. The meter (electrostatic type) reading should indicate 2.2 kV±0.1 kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

4. OPERATION GUIDE

5. SERVICE NOTES (PLEASE READ)

5.1. SERVICE NOTES

5.1.1. EXTENSION CABLES FOR SERVICE

Using the following Extension Cables, place the unit as shown for check and service.

No.	PART NUMBER	PART NAME	CONNECTION
1	VUVS0007	12Pin Extension Cable	FP8 on Main C.B.A. ~ CCD F.P.C. on Lens Unit
2	LSUA0020	20Pin Extension Cable	FP9 on Main C.B.A. ~ Lens F.P.C. on Lens Unit
3	VUVS0015	28Pin Extension Cable	FP1 on Main C.B.A. ~ A/C Head/Capstan F.P.C. on VCR Mechanism Chassis Ass'y
4	LSUA0021	26Pin Extension Cable	FP3 on Main C.B.A. ~ Top Operation F.P.C.

NOTE:

1. When using the cassette tape:
   A. Be sure to remove a cassette lid cover of cassette tape.
   B. Be sure to install the Lock Screw to Cassette Up Unit. After servicing, be sure to remove the Lock Screw.
   Refer to "HOW TO HOLD THE CASSETTE UPUNIT IN THE DOWN POSITION WITHOUT CASSETTE COVER INSTALLED."

C. **Select the H. Safety Defeat in SERVICE MODE. Refer to " SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM). "**

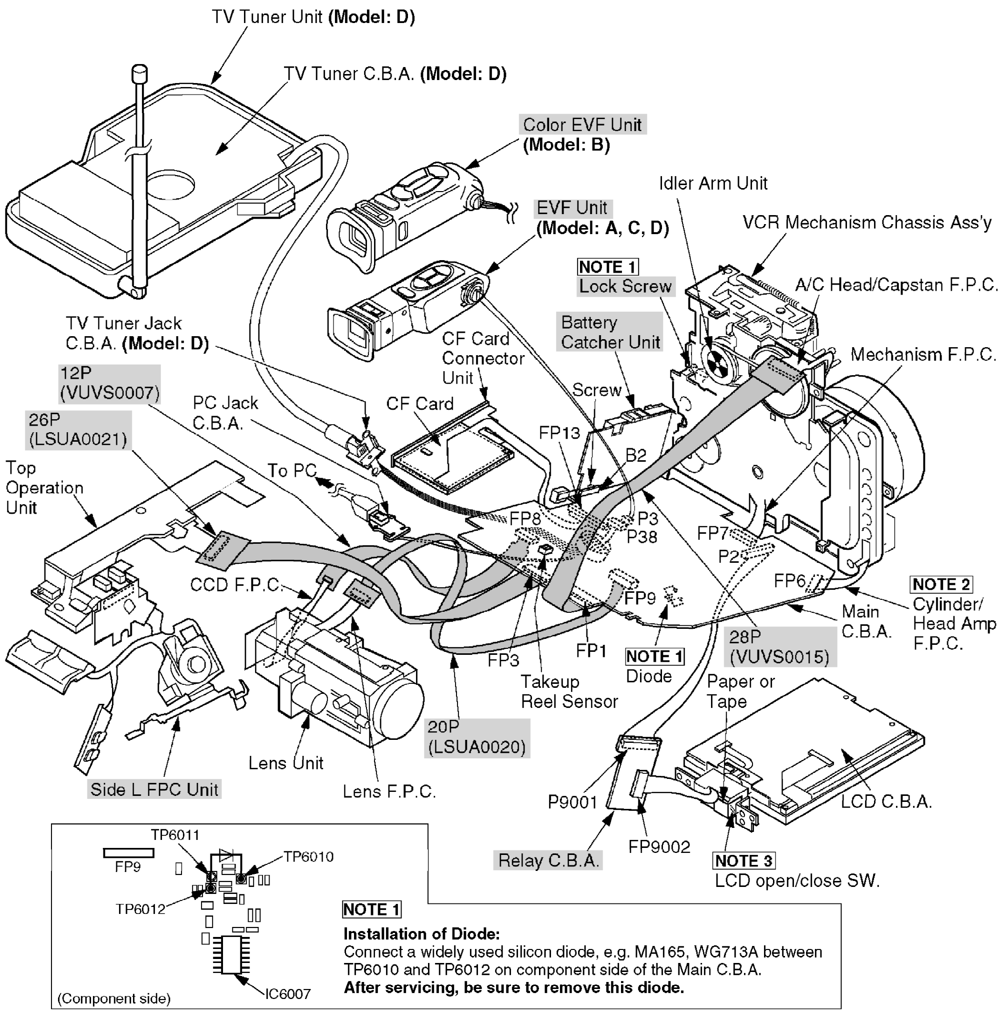
Or, connect a silicon diode on component side of the Main C.B.A. as shown to defeat safety function.

(Since Takeup Reel sensor, located on Main C.B.A. does not work when opening Main C.B.A., the mechanism does not work (Reel lock). Therefore, make sure to defeat Safety function.)

2. **Use extreme care so as not to apply any excessive pressure to the Cylinder/Head Amp F.P.C. After servicing, be sure to place it correctly. Refer to "Cylinder Ass'y" in "MECHANISM SECTION."**
3. **The LCD open/close SW. is for changing between LCD Display or EVF Display. When turning on LCD Display, place some paper or tape, etc. on LCD open/close SW. so that this SW. stays ON.**
4. **Use a grounded ESD wrist strap while disassembling the Lens portion.**
5. **Use extreme care when unplugging or plugging in connectors.**

Fig. 1-1

Note: ▨ marked parts are supplied as service fixtures.



TV Tuner Unit **(Model: D)**
TV Tuner C.B.A. **(Model: D)**
Color EVF Unit
(Model: B)
Idler Arm Unit
EVF Unit
(Model: A, C, D)
VCR Mechanism Chassis Ass'y
NOTE 1
Lock Screw
A/C Head/Capstan F.P.C.
Battery
Catcher Unit
Mechanism F.P.C.
TV Tuner Jack
C.B.A. **(Model: D)**
CF Card
Connector
Unit
12P
(VUVS0007)
Screw
PC Jack
C.B.A.
CF Card
26P
(LSUA0021)
FP13
B2
Top
Operation
Unit
To PC
FP8
P3
P38
FP7
P2
FP6
NOTE 2
CCD F.P.C.
FP9
Cylinder/
Head Amp
F.P.C.
Main
C.B.A.
28P
(VUVS0015)
FP1
NOTE 1
Diode
FP3
Takeup
Reel Sensor
Paper or
Tape
20P
(LSUA0020)
Lens Unit
Side L FPC Unit
Lens F.P.C.
P9001
LCD C.B.A.
FP9002
Relay C.B.A.
NOTE 3
LCD open/close SW.
TP6011
FP9
TP6010
TP6012
IC6007
(Component side)

NOTE 1

Installation of Diode:

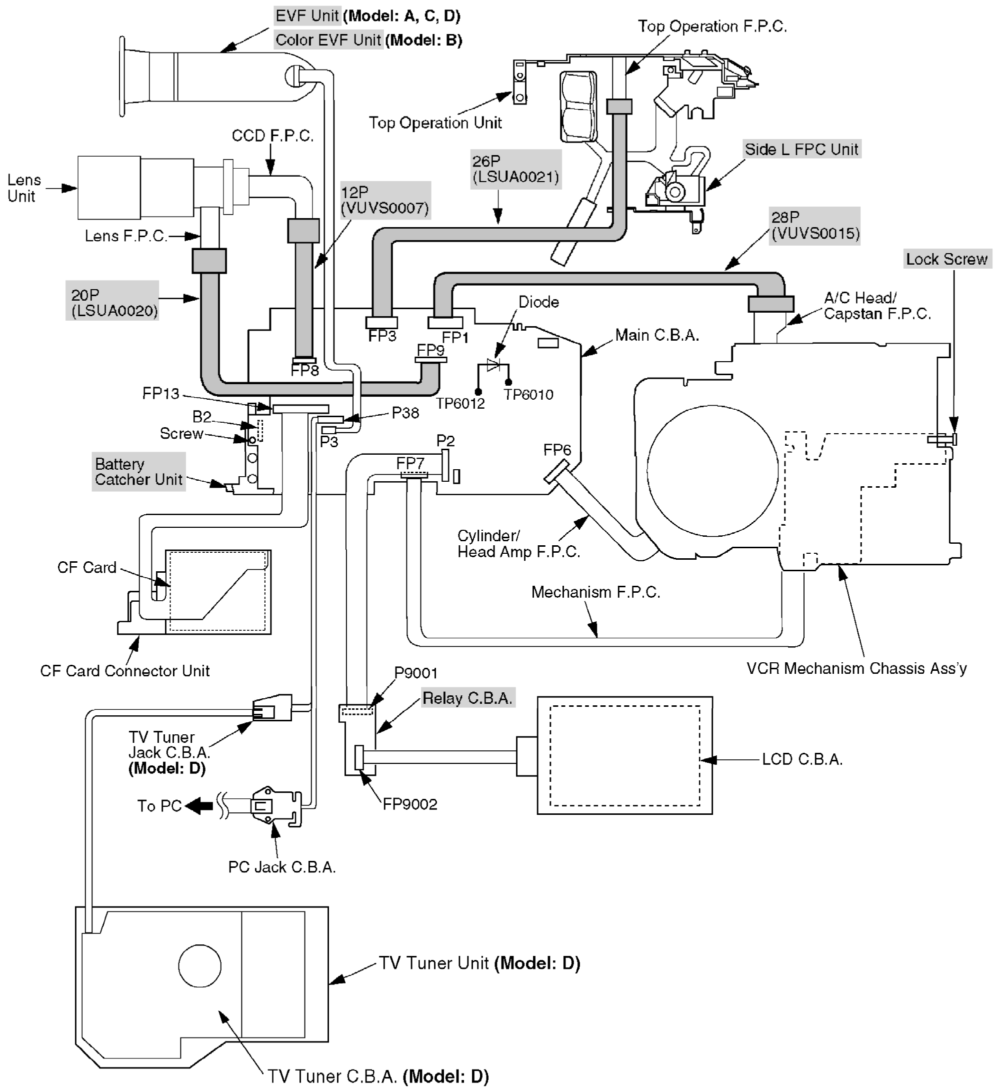
Connect a widely used silicon diode, e.g. MA165, WG713A between TP6010 and TP6012 on component side of the Main C.B.A.

After servicing, be sure to remove this diode.

5.1.2. INTERCONNECTION OF EXTENSION CABLES

Fig. 1-2

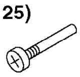
Note: ▨ marked parts are supplied as service fixtures.


EVF Unit (Model: A, C, D)
Color EVF Unit (Model: B)
Top Operation F.P.C.
Top Operation Unit
CCD F.P.C.
Lens Unit
26P (LSUA0021)
12P (VUVS0007)
Side L FPC Unit
Lens F.P.C.
28P (VUVS0015)
Lock Screw
20P (LSUA0020)
Diode
A/C Head/ Capstan F.P.C.
FP3
FP1
Main C.B.A.
FP9
FP8
FP13
TP6012
TP6010
B2
P38
Screw
P3
P2
Battery Catcher Unit
FP7
FP6
Cylinder/ Head Amp F.P.C.
CF Card
Mechanism F.P.C.
CF Card Connector Unit
VCR Mechanism Chassis Ass'y
P9001
Relay C.B.A.
TV Tuner Jack C.B.A. (Model: D)
LCD C.B.A.
To PC
FP9002
PC Jack C.B.A.
TV Tuner Unit (Model: D)
TV Tuner C.B.A. (Model: D)

5.1.3. HOW TO HOLD THE CASSETTE UPUNIT IN THE DOWN POSITION WITHOUT CASSETTE COVER INSTALLED

The Cassette Up Unit will be in the up position without the Cassette Cover installed. To hold the Cassette Up Unit in the down position without it, a Lock Screw is needed.

Lock Screw (VHDW0125)



A Lock Screw is supplied as a service fixture.

5.1.3.1. How to install the Lock Screw:

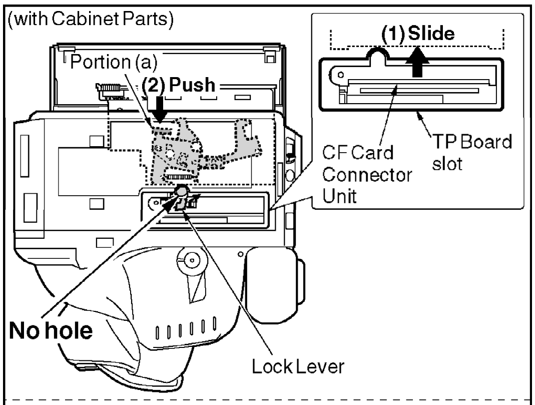
1. **(With Cabinet Parts) Before installing the Lock Screw, slide the CF Card Connector Unit as shown in Fig. 2-1.**
2. **If the Lock Lever, shown in gray, is set to Position "A" (No hole), change Position "A" (No hole) to Position "B" (Hole) as shown in**

Fig. 2-2 by pushing Portion (a) as shown in Fig. 2-1.

Note:

If the mechanism is in EJECT position, the Lock Lever cannot be changed to Position "B" by pushing Portion (a). In this case, apply the power to set the mechanism to STOP position.

Fig. 2-1


(with Cabinet Parts)
Portion (a)
(2) Push
(1) Slide
CF Card Connector Unit
TP Board slot
No hole
Lock Lever

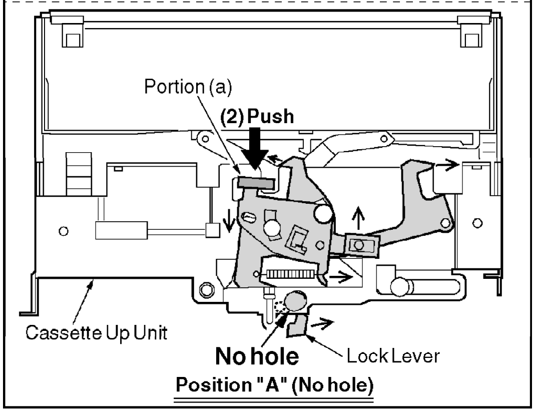
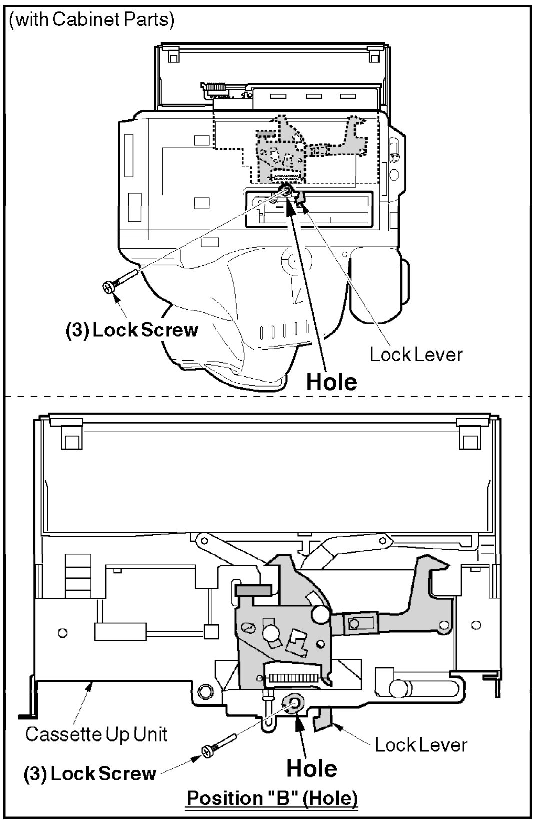

Portion (a)
(2) Push
Cassette Up Unit
No hole
Lock Lever
Position "A" (No hole)

Fig. 2-2


(with Cabinet Parts)
(3) Lock Screw
Lock Lever
Hole
Cassette Up Unit
Lock Lever
(3) Lock Screw
Hole
Position "B" (Hole)

3. **Install the Lock Screw in the Hole (Threaded Hole for Lock Screw access) in Position "B".**
4. **Hold down the Cassette Up Unit.**
5. **Confirm that Cassette Up Unit will be held in the down Position.**

5.1.3.2. Lock Screw is required when:

1. **performing "Tape Interchangeability Adjustment."**
2. **performing"PC-EVR Adjustment" with cassette tape.**
3. **servicing with cassette tapein Service Position. The procedure below is required when the unit is in safety defeat mode.**
   - **A. Confirm that the Lock Lever, shown in gray, is set to Position "A" as shown in Fig. 2-1, and that the mechanism is in the STOP position.**
   - **B. Insert the cassette tape.**
   - **C. Push Portion (a) as shown in Fig. 2-1 while keeping the Cassette Up Unit in the down position so the mechanism starts loading. (Cassette Down Switch is ON.)**

CAUTION:

1. After servicing, be sure to remove the Lock Screw.
2. The replacement Cassette Up Unit and VCR Mechanism Chassis Ass'y are supplied with a Lock Screw installed. Make sure to remove this Lock Screw when replacing them.

5.1.4. SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)

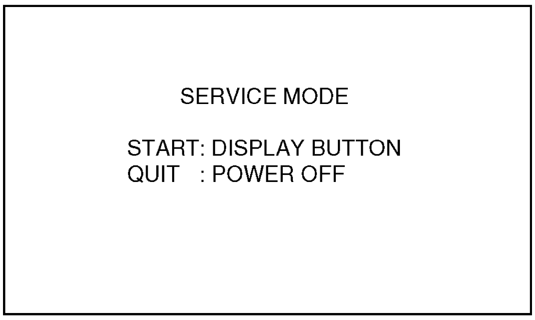
Operation:

1. **Start-up : Press and hold all of the Display, REC, and Stopbuttons over 2 seconds, the unit goes into the self-diagnostic mode and main menu appears.**
2. **Mode Selection : Press display button to change and select self-diagnose mode.**
3. **Close : Turn off the Power Switch.**

Display:

1. **Following descriptions can be displayed on EVF and TV monitor at the same time.**

1. Main Menu



SERVICE MODE

START: DISPLAY BUTTON
QUIT : POWER OFF

Press and hold all of the Display, REC and Stop buttons over 2 seconds. The Main Menu appears on E.V.F. and TV monitor.

DISPLAY BUTTON

2. Auto Stop

A.AUTO STOP

NORMAL —— *
LOADING LOCK **
CYLINDER LOCK
TAKE-UP REEL LOCK
SUPPLY REEL LOCK
DEW
BATTERY UNDERCUT
STANDBY MODE

RESET: STOP BUTTON

When the unit suddenly shuts off, It is possible to see the cause description in this menu. Even if the AC adaptor or battery is disconnected, the most recent failure will be memorized. Pressing the Stop button at this time will reset the memory.

* Cause descriptions can be displayed until power shuts off.
** LOADING LOCK --- EJECT
STOP
STBY
REC / PB
(When it is possible to detect the lock position, loading lock position can be displayed.)

DISPLAY BUTTON

3. Auto Test

B.AUTO TEST

SET VCR/CAMERA SW TO
CAMERA

1. CASSETTE TAPE IN
2. PRESS REC BUTTON

a. Cassette tape in and Press REC button.
b. The unit operates automatically on tests.

REC BUTTON

B.AUTO TEST

■ REC

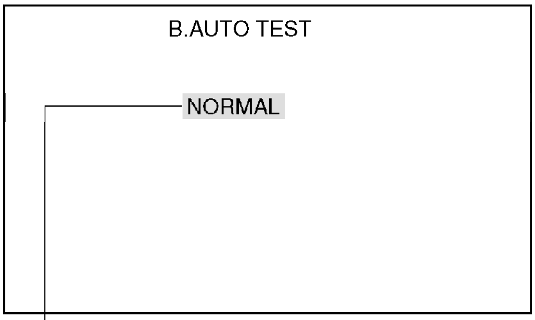
☐ REVIEW

☐ PLAY

☐ REC PAUSE

a. Automatically operates REC (30sec), REW, PLAY, and STOP.
b. Displays the test status while auto test is progressing. (■ Mark shows the test status.)

AUTO



B.AUTO TEST

NORMAL

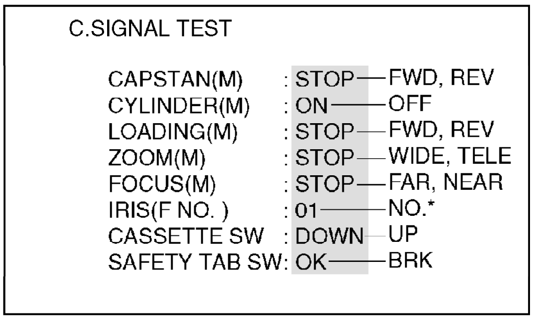
Displays the test result.

LOADING LOCK **
CYLINDER LOCK
* TAKE-UP REEL LOCK
SUPPLY REEL LOCK
DEW
BATTERY UNDERCUT
STANDBY MODE

* Cause descriptions can be displayed until power shuts off.
** LOADING LOCK --- EJECT
STOP
STBY
REC / PB
(When it is possible to detect the lock position, loading lock position can be displayed.)

DISPLAY BUTTON

4. Motor Control Signal Check



C.SIGNAL TEST

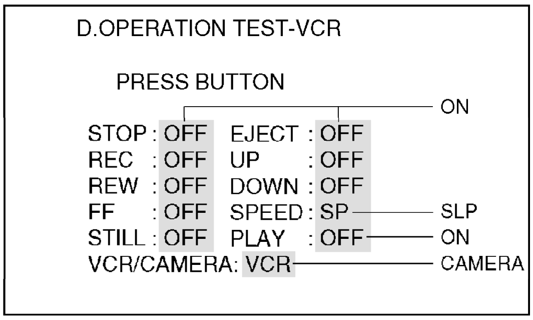
CAPSTAN(M) : STOP — FWD, REV
CYLINDER(M) : ON — OFF
LOADING(M) : STOP — FWD, REV
ZOOM(M) : STOP — WIDE, TELE
FOCUS(M) : STOP — FAR, NEAR
IRIS(F NO.) : 01 — NO.*
CASSETTE SW : DOWN — UP
SAFETY TAB SW: OK — BRK

Displays all of motor drive signals and switch inputs from mechanism chassis.

* Iris No. display

DISPLAY BUTTON

5. Operation Button Test - VCR



D.OPERATION TEST-VCR

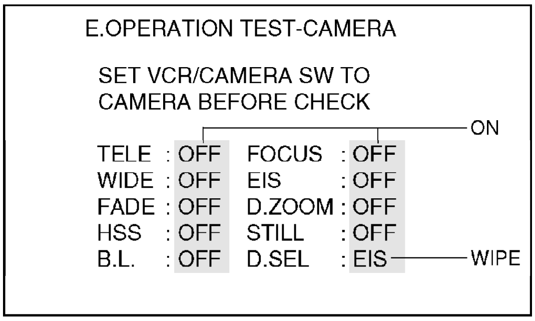
PRESS BUTTON — ON

STOP : OFF EJECT : OFF
REC : OFF UP : OFF
REW : OFF DOWN : OFF
FF : OFF SPEED : SP — SLP
STILL : OFF PLAY : OFF — ON
VCR/CAMERA: VCR — CAMERA

Tests connection of VCR operation buttons by pressing each button.

DISPLAY BUTTON

6. Operation Button Test - Camera



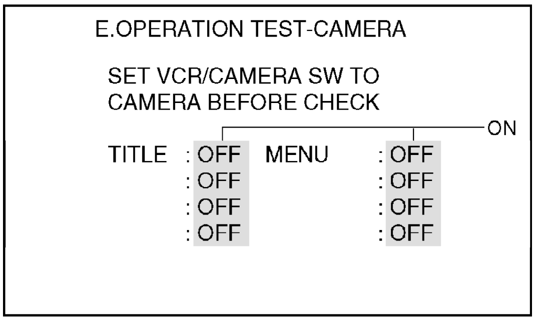
```
E.OPERATION TEST-CAMERA

 SET VCR/CAMERA SW TO
 CAMERA BEFORE CHECK

 TELE  : OFF   FOCUS  : OFF
 WIDE  : OFF   EIS    : OFF
 FADE  : OFF   D.ZOOM : OFF
 HSS   : OFF   STILL  : OFF
 B.L.  : OFF   D.SEL  : EIS
```

Tests connection of camera operation buttons by pressing each button.

⇩ DISPLAY BUTTON



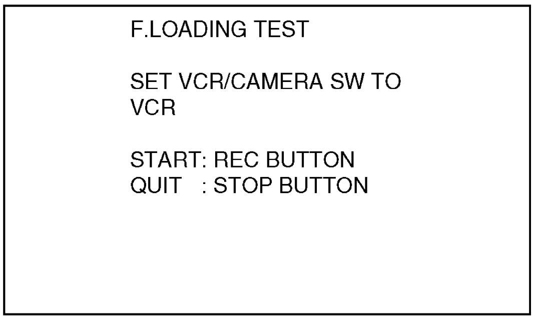
```
E.OPERATION TEST-CAMERA

 SET VCR/CAMERA SW TO
 CAMERA BEFORE CHECK

 TITLE  : OFF   MENU      : OFF
        : OFF             : OFF
        : OFF             : OFF
        : OFF             : OFF
```

⇩ DISPLAY BUTTON

7. Loading Test



```
F.LOADING TEST

SET VCR/CAMERA SW TO
VCR

START: REC BUTTON
QUIT   : STOP BUTTON
```

Repeats loading / unloading 10 times without tape to check loading mechanism.

⇩ DISPLAY BUTTON

8. Mechanism Position

G.MECHANISM POSITION

■ EJECT

☐ STOP STANDBY

☐ STANDBY

☐ REC/PLAY/FF

Displays mechanism position by monitoring mode switch.
(■ mark shows the current mechanism position.)

⇩ DISPLAY BUTTON

9. Safety Defeat

H.SAFETY DEFEAT

SET VCR/CAMERA SW TO
VCR

1.CLOSE CASSETTE DOOR
WITHOUT TAPE

2.PRESS OPERATION
BUTTONS

a. Defeats following safety functions. Cylinder lock, Reel lock, End of tape, Battery under cut, Safety tab switch.
b. It is possible to check mechanism movement without tape by pressing operation buttons in this mode.

Another Method to put the unit into Safety Defeat mode:
Connect a silicon diode between TP6010 and TP6012 on component side of the Main C.B.A.
Refer to "EXTENSION CABLES FOR SERVICE" in "SERVICE NOTES."

⇩ DISPLAY BUTTON

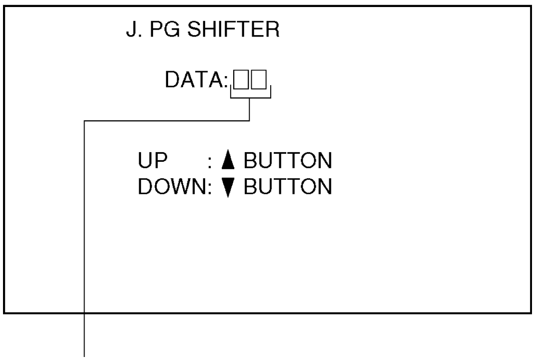
10. Tracking Fix

I. TRACKING FIX

Functions to fix tracking position to its center for tape path alignment.

⇩ DISPLAY BUTTON

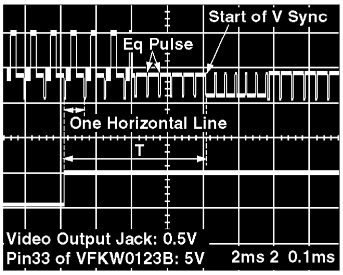
11. PG Shifter

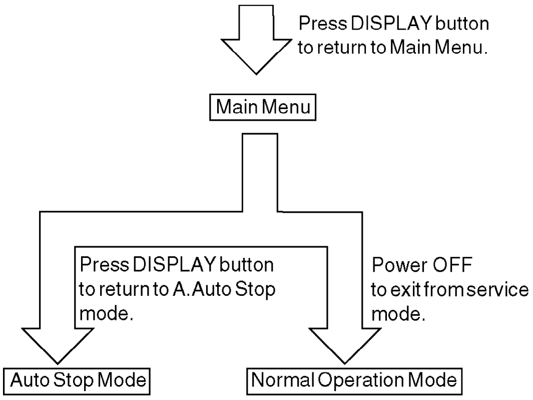

J. PG SHIFTER
DATA:☐☐
UP : ▲ BUTTON
DOWN: ▼ BUTTON

Displays the adjustment data.

This is a function to adjust Head Switching Position (PG SHIFTER) by pressing UP ▲ or Down ▼ button without using the Personal Computer.
To adjust with this function, the TP Board Kit, Audio/Video cable, oscilloscope, and VHS-C Alignment Tape (VFMS0004H6C) are necessary.
For connecting TP Board Kit, refer to "PREPARATION" in ELECTRICAL ADJUSTMENT.

Adjustment procedure
Press UP ▲ or Down ▼ button while playing back the VHS-C Alignment Tape so that T is 6.5 H±0.5 H (approx. 0.4 ms).




Press DISPLAY button to return to Main Menu.
Main Menu
Press DISPLAY button to return to A.Auto Stop mode.
Power OFF to exit from service mode.
Auto Stop Mode
Normal Operation Mode

5.1.5. DESCRIPTION OF EMERGENCY INDICATIONS

When something unusual as shown below occurs in the deck, LED begins flashing for approx. 15 seconds to indicate an Emergency.

No.	Information	POWER LED	TALLY LED	Cause and Characteristic
①	Cylinder Lock	—	●	CYLINDER Motor stops in the REC, PB, CUE, REVIEW or STILL MODE for 2 second.
②	Takeup-Reel Lock	◐	—	There is no TAKEUP REEL sensor pulse for 2.3 seconds (PLAY, REC) or 0.7 second (CUE, REVIEW, FF, REW).
③	Battery Under Cut or DEW	⊗	—	When the Battery voltage drops to 5.3 V. Or excessive moisture condenses in the Unit.

NOTE :

◐ : Indicates LED Flashing at 3 Hz rate (duty 50%)
⊗ : Indicates LED Flashing at 0.8 Hz rate (duty 50%)
● : Indicates LED Flashing at 1 Hz rate (duty 50%)

5.1.6. METHOD FOR LOADING/UNLOADING OF MECHANISM

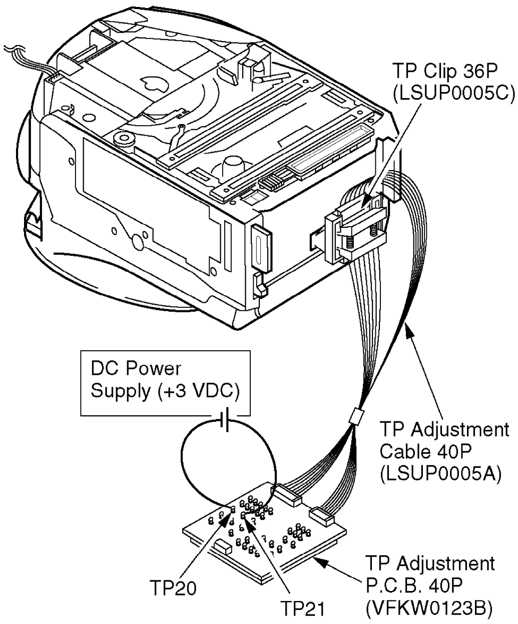
5.1.6.1. (Electrical Method)

CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue to applying DC Power Supply.

Connect the TP Board Kit as shown, and apply 3 VDC Power Supply (DC+ to TP21, DC- to TP20 for loading or DC+ to TP20, DC- to TP21 for unloading). Refer to "HOW TO USE TP BOARD KIT." It normally takes approx. 6 seconds to unload the Mechanism from fully-loaded position to EJECT position.

Fig. 3-1



Loading
(DC+3V to TP21, DC- to TP20)

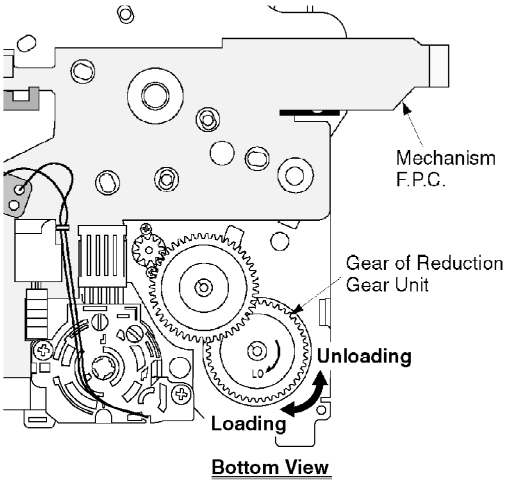
Unloading
(DC+3V to TP20, DC- to TP21)

5.1.6.2. (Manual Method) without Cabinet Parts

Turn the Gear of Reduction Gear Unit clockwise (for loading) or counterclockwise (for unloading) manually.

It is necessary to rotate approx. 80 times from fully-loaded position to EJECT position.

Fig. 3-2


Mechanism
F.P.C.
Gear of Reduction
Gear Unit
Unloading
Loading
LO
Bottom View

Note:
Indication of Reduction Gear Unit shows direction of Loading.

5.1.7. HOW TO REMOVE A JAMMED TAPE

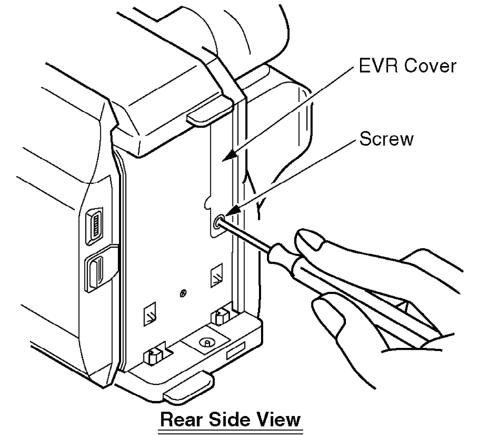
CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue applying DC Power Supply.

5.1.7.1. Remove a jammed tape as follows:

1. Remove a Screw and remove the EVR Cover.

Fig. 4-1


EVR Cover
Screw
Rear Side View

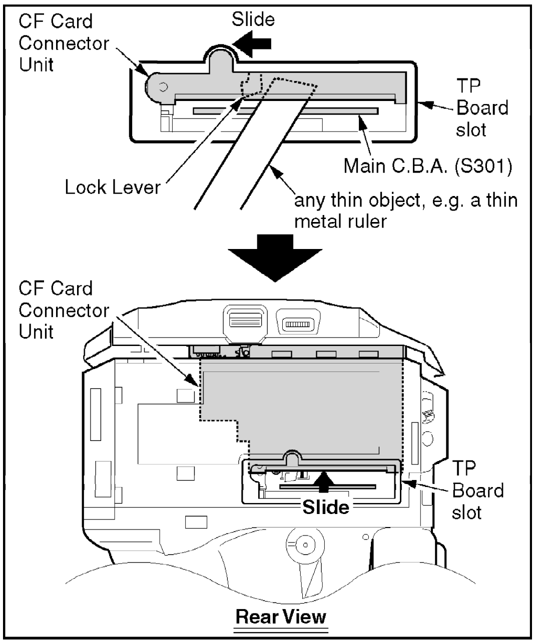
2. Place the unit with the Cassette Cover facing upward.

3. Slide the Lock Lever through TP Board slot to open the Cassette Cover slightly. Then, slide the CF Card Connector Unit so that the TP Board Kit can connect to Main C.B.A. (S301) as shown. (Hold the Cassette Cover slightly downward.)

Note:

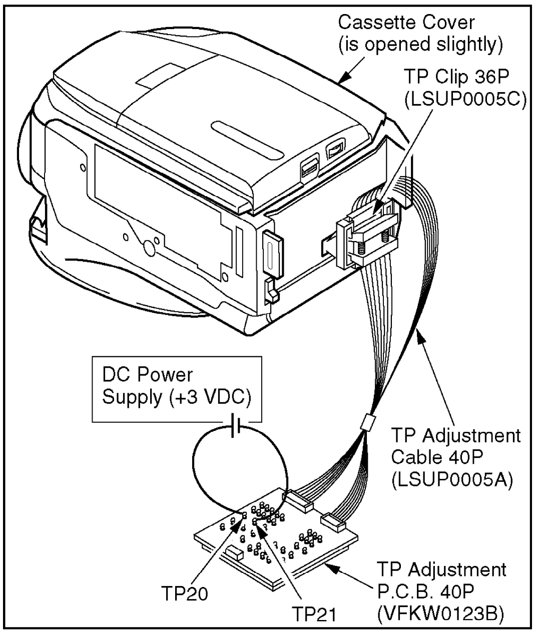
Do not fully open the Cassette Cover. Otherwise, the cassette tape may be damaged.

Fig. 4-2


CF Card Connector Unit
Slide
TP Board slot
Main C.B.A. (S301)
Lock Lever
any thin object, e.g. a thin metal ruler
CF Card Connector Unit
TP Board slot
Slide
Rear View

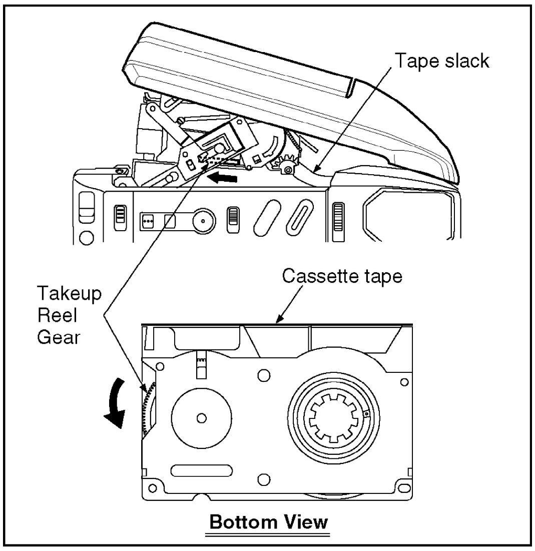
4. **Connect the TP Board Kit through the TP Board slot.**
5. **Apply +3 VDC Power Supply to TP20 (+) and TP21 (-) on the TP Board to unload the mechanism. It normally takes approx. 6 seconds to unload the Mechanism to EJECT position. Then, remove the Power Supply and remove the TP Board Kit.**

Fig. 4-3


Cassette Cover
(is opened slightly)
TP Clip 36P
(LSUP0005C)
DC Power
Supply (+3 VDC)
TP Adjustment
Cable 40P
(LSUP0005A)
TP Adjustment
P.C.B. 40P
(VFKW0123B)
TP20
TP21

6. Open the Cassette Cover fully.
7. Remove the tape slack by rotating the Takeup Reel Gear of the cassette tape as shown in Fig. 4-4.

Fig. 4-4



8. Take out the cassette tape.
9. Connect the Power or Battery to set the Mechanism to STOP Position.

5.1.8. HOW TO USE TP BOARD KIT

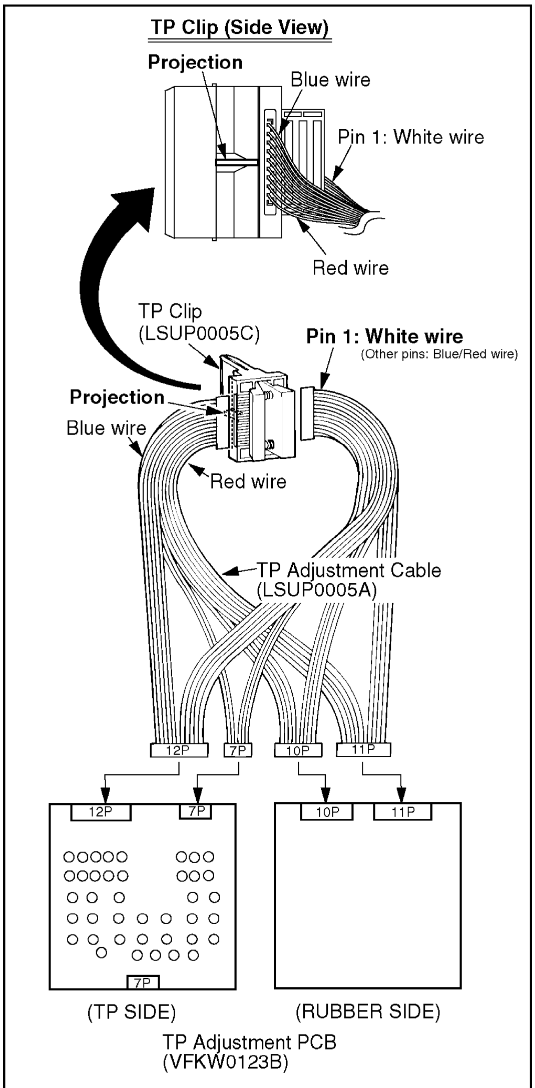
5.1.8.1. TP Board Kit is required when:

1. performing "Tape Interchangeability Adjustment."
2. performing "PC-EVR Adjustment."
3. the cassette tape is jammed. Refer to "HOW TO REMOVE A JAMMED TAPE."
4. loading or unloading the Mechanism (Electrical Method).

5.1.8.2. How to assemble TP Board Kit:

1. Assemble the TP Board Kit as shown.

Fig. 5-1

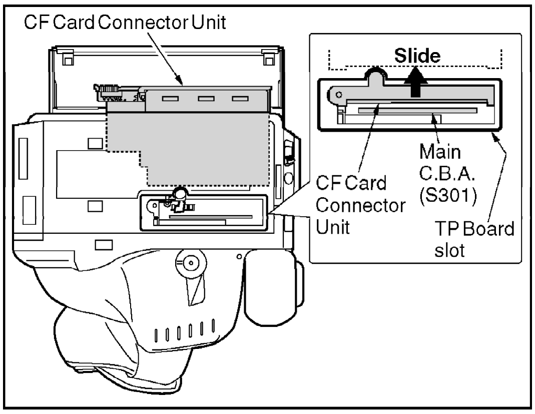

TP Clip (Side View)
Projection
Blue wire
Pin 1: White wire
Red wire
TP Clip
(LSUP0005C)
Pin 1: White wire
(Other pins: Blue/Red wire)
Projection
Blue wire
Red wire
TP Adjustment Cable
(LSUP0005A)
12P
7P
10P
11P
12P
7P
10P
11P
7P
(TP SIDE)
(RUBBER SIDE)
TP Adjustment PCB
(VFKW0123B)

Note:
When inserting the TP Adjustment Cable into the TP Clip, be sure to insert the cable with white wire (1pin) into opposite side of the TP Clip Projection as shown.

5.1.8.3. How to install TP Board Kit to Camcorder:

1. Remove a Screw and remove the EVR Cover. Then, open the Cassette Cover by sliding the EJECT button with Power ON, or sliding the Lock Lever through TP Board slot. Remove the Cassette Cover for "Tape Interchangeability adjustment," OR release only 2 Locking Tabs (L-1) of the Cassette Cover for "EVR Adjustment." Refer to "CABINET SECTION" in DISASSEMBLY/ ASSEMBLY PROCEDURES.
2. Slide the CF Card Connector Unit as shown.

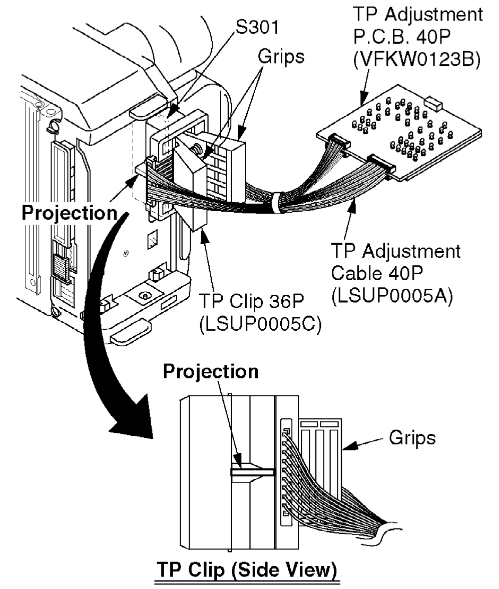
Fig. 5-2


CF Card Connector Unit
Slide
Main
C.B.A.
(S301)
CF Card
Connector
Unit
TP Board
slot

3. **Install the Lock Screw to the Cassette Up Unit to use the cassette tape.**
   Refer to "HOW TO HOLD THE CASSETTE UPUNIT IN THE DOWN POSITION WITHOUT CASSETTE COVER INSTALLED."

4. **Install the TP Board Kit to Camcorder as shown.**

Fig. 5-3


S301
Grips
TP Adjustment
P.C.B. 40P
(VFKW0123B)
Projection
TP Adjustment
Cable 40P
(LSUP0005A)
TP Clip 36P
(LSUP0005C)
Projection
Grips
TP Clip (Side View)

Note:
When inserting the TP Clip to S301 on the camcorder, pinch the grips and be sure that the Projection is set to the left side as shown.

5.1.8.4. Signal description on TP Adjustment P.C.B. 40P (VFKW0123B)

Pin No.	Signal
1	GND
2	IRIS
3	GND
4	(Not used)
5	(Not used)
6	EVR MODE (L)
7	CAM +4.5V
8	EVR SERIAL DATA 1
9	V-SYNC
10	EVR SERIAL DATA 0
11	CAMERA RESET (L)
12	NC
13	EVR SERIAL CLOCK
14	NC
15	(Not used)
16	NC
17	NC
18	LUMINANCE
19	NC
20	LOADING MOTOR 0
21	LOADING MOTOR 1
22	SUPPLY REEL PULSE
23	(Not used)
24	SAFETY TAB BROKEN (L)
25	PB CTL PULSE
26	SUPPLY PHOTO TR (L)
27	CAP FG
28	(Not used)
29	H-SYNC
30	PB LUMINANCE
31	YNR
32	ENVELOPE
33	HEAD SW
34	(Not used)
35	GND
36	GND
37	REC CHROMINANCE
38	REC LUMINANCE
39	(Not used)
40	(Not used)

5.1.9. EEPROM DATA

CAUTION:

Be sure to save the EEPROM data using PC-EVR Adjustment Program before service and adjustment in order to make sure to avoid an accidental data loss, etc. as follows.

EEPROM IC

C.B.A.	EEPROM IC Ref. No.
Main C.B.A.	IC306

5.1.9.1. How to save the EEPROM data to your PC

1. **Start up the PC-EVR Adjustment Program.**
2. **Select "1. Read (Save)/Write All EEPROM datas." in Main menu, and then press "Enter" key.**
3. **Select "1. Save all data of EEPROM" in Read (Save)/Write All EEPROM datas menu, and then press "Enter" key.**
4. **Input the File name, and then press "Enter" key. The data of EEPROM IC will be stored to your PC.**

5.1.9.2. How to write the EEPROM data which was stored in your PC to EEPROM IC

When it becomes impossible to adjust during service and adjustment, write the EEPROM data which was stored in your PC to EEPROM IC as follows. And readjust the camcorder.

1. **Start up the PC-EVR Adjustment Program.**
2. **Select "1. Read (Save)/Write All EEPROM datas." in Main menu, and then press "Enter" key.**
3. **Select "2. Data write using stored file" in Read (Save)/Write All EEPROM datas menu, and then press "Enter" key.**
4. **Input the saved file name, and then press "Enter" key. The data will be written in EEPROM IC.**

5.1.9.3. How to initialize the EEPROM IC

When the EEPROM IC (IC306) or Main C.B.A. is replaced, be sure to write the initial data to EEPROM IC. And adjust the camcorder.

1. **Start up the PC-EVR Adjustment Program.**
2. **Select "1. Read (Save)/Write All EEPROM datas." in Main menu, and then press "Enter" key.**
3. **Select "3. Data write with initial data" in Read (Save)/Write All EEPROM datas menu, and then press "Enter" key. And press "Enter" key once again. The initial data will be written in EEPROM IC.**

5.1.10. HOW TO ACCESS THE MANUAL TRACKING CONTROL

Press the UP▲ (Tracking Up) or Down▼ (Tracking Down) button to perform the Manual Tracking Adjustment in Playback Mode.

5.1.11. CONNECTION OF THE FLEXIBLE CABLES TO TRAP CONNECTORS

Plug No.	No. of Pins	C.B.A.
FP1	28 Pin	Main C.B.A.
FP3	26 Pin	Main C.B.A.
FP4	6 Pin	Main C.B.A.
FP6	39 Pin	Main C.B.A.
FP7	14 Pin	Main C.B.A.
FP8	12 Pin	Main C.B.A.
FP9	20 Pin	Main C.B.A.
FP11	13 Pin	Main C.B.A.
FP13	42 Pin	Main C.B.A.
FP901	6 Pin	EVF C.B.A. **(Model: A, C, D)**
FP901	6 Pin	Color EVF A C.B.A. **(Model: B)**
FP902	16 Pin	Color EVF A C.B.A. **(Model: B)**
FP1201	21 Pin	LCD C.B.A.
FP1202	5 Pin	LCD C.B.A.
FP3501	12 Pin	Head Amp C.B.A.
FP9001	24 Pin	LCD C.B.A.
FP9002	18 Pin	Relay C.B.A.

5.1.12. REPLACEMENT PROCEDURE FOR LEADLESS (CHIP) COMPONENT

The following procedures are recommended for the replacement of the leadless components used in this Unit.

1. Preparation for replacement

A. Soldering Iron

Use a pencil-type soldering iron using less than 30 watts.

B. Solder

Eutectic Solder (Tin 63%, Lead 37%) is recommended.

C. Soldering time

Do not apply heat for more than 4 seconds.

D. Preheating

Leadless capacitor must be preheated before installation. (130°C ~ 150°C, for about 2 minutes.)

Note:

A. Leadless component must not be reused after removal.

B. Excessive mechanical stress and rubbing of the component electrode must be avoided.

2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove leadless component with a twisting motion.

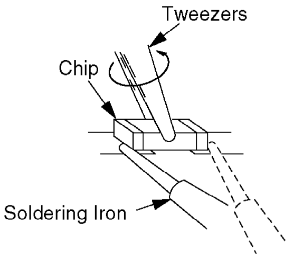
Note:

A. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a

twisting action. The leadless component is attached to the PCB with glue. So carefully twist the component when removing it so as not to break or damage any fail under the component.

B. Take care not to break the copper foil on the printed board.

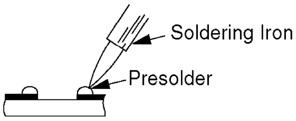
Fig. 6-1



3. Installation of the leadless component

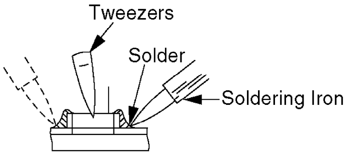
A. Presolder the contact points of the circuit board.

Fig. 6-2



B. Press the part downward with tweezers and solder both electrodes as shown below.

Fig. 6-3



Note:

Do not glue the replacement leadless component to the circuit board.

5.1.13. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handlings techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

5.1.14. MODEL NO. IDENTIFICATION MARK

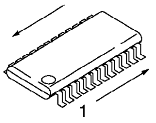
Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PV-L750	A
- - - - - - -	B
PV-L780	C
PV-L850	D
NOT USED	Z

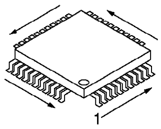
Note:
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for Mark "Z."

5.2. IC, TRANSISTOR AND CHIP PART INFORMATION

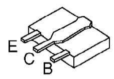
GENERAL C.B.A. / ASS'Y PARTS



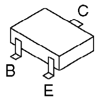
ADM3202ARU, AN2515NS, AN3365SB-E1, BA10324AFVE1, BR9040FV-DE2, BA6288FS-E2, D789124AM503, MN3112SA-E1, HD74HC244TEL, M52684BFP, MN38663S, LB1837MLTEL3, LB1837MTEL3, LB1837M-TE-L, LC74723M9629, LM324DB, NJU4053BV, UN224-TX, S3510AEFJTB, SNAHC2G240H, SNLV4053APW, SN74HC244PWR, TC7W240FU, TC7W04FTE12L, ZA4035H



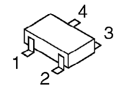
AN2109NFHQ, AN2401NFH, AN2536FHQ, AN2545FHQ, AN3897FH, BA7757BK, MN67324, MN5293-1, MN101D02FWD1, MN103004KEA, MN103004KEC



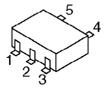
2SB1073, 2SD1119, 2SD968A, RH5RE45AA-T1 2SB1386T100Q, 2SB1386T100R, 2SD2150T100R, 2SB1628-T1ZX, 2SB1628-T1ZY



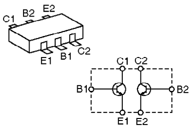
2SA1037K146R, 2SA1576A106R, 2SB1424T100Q, 2SB1424T100P, 2SB1585, 2SB1218A, 2SB970, 2SB709A, 2SC3931, 2SC2412K1, 2SC4081T106R, 2SD1819A, 2SD602, 2SD601A, 2SD2432, 2SD602A, 2SD1328, 2SD2436, 2SK1958, 2SK1299STL



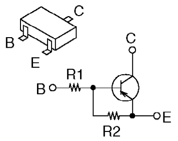
S80839ANNPT2, R311Q391ATR, XC61CN3902NR



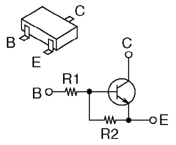
TA75S558F85L, TC7S08FTE85L, TC7S08FTE85R, NJM2380ATTE1



XN4501, IMX1T108

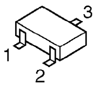


UN5111(R1=10K, R2=10K), UN5112(R1=22K, R2=22K), UN5113(R1=47K, R2=47K), UN5114(R1=10K, R2= 47K) UN5115(R1=10K, R2=OPEN), DTA124EU(R1=22K, R2=22K), DTA144EU(R1=, R2=), DTA114EU(R1=10K, R2=10K), DTA114TU(R1=10K, R2=10K), DTA114YU(R1=10K, R2=47K)

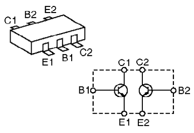


UN5212(R1=22K, R2=22K), UN5217(R1=22K, R2=OPEN), DTC124EU(R1=22K, R2=22K), DTC124TU(R1=22K, R2=OPEN)

MAIN C.B.A.

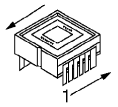


XC62FP4502PR



XN4601, IMZ1T108

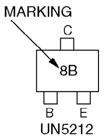
CCD C.B.A.



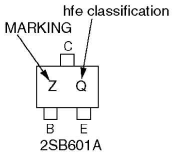
MN371132FT-M, MN37241FT

HOW TO READ THE IDENTIFICATION MARK OF CHIP COMPONENTS.

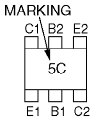
MARKING	PART NO.	MARKING	PART NO.
B	2SB1218A	6A	UN5111
B	2SB709A	6B	UN5112
B	2SC4081T106R	6C	UN5113
C	DTA144EU	6D	UN5114
F	2SA1037K146R	6E	UN5115
T	2SD1119	8B	UN5212
I	2SB1073	1R	2SB1585
U	2SC3931	8H	UN5217
Z	2SD601A	5H	XN4501
Z	2SD1819A	5C	XN4601
AEPJ	2SB1424T100Q	8HR	DTC124TU
ZX	2SB1628	MC	MA143
ZY	2SB1628	2A	MA728
1R	2SB970	1B	MA111
V	2SD968A	12H	MA3120WA
W	2SD602	MO	MA142WA
G	2SK1958	MU	MA142WK



UN5212



2SB601A



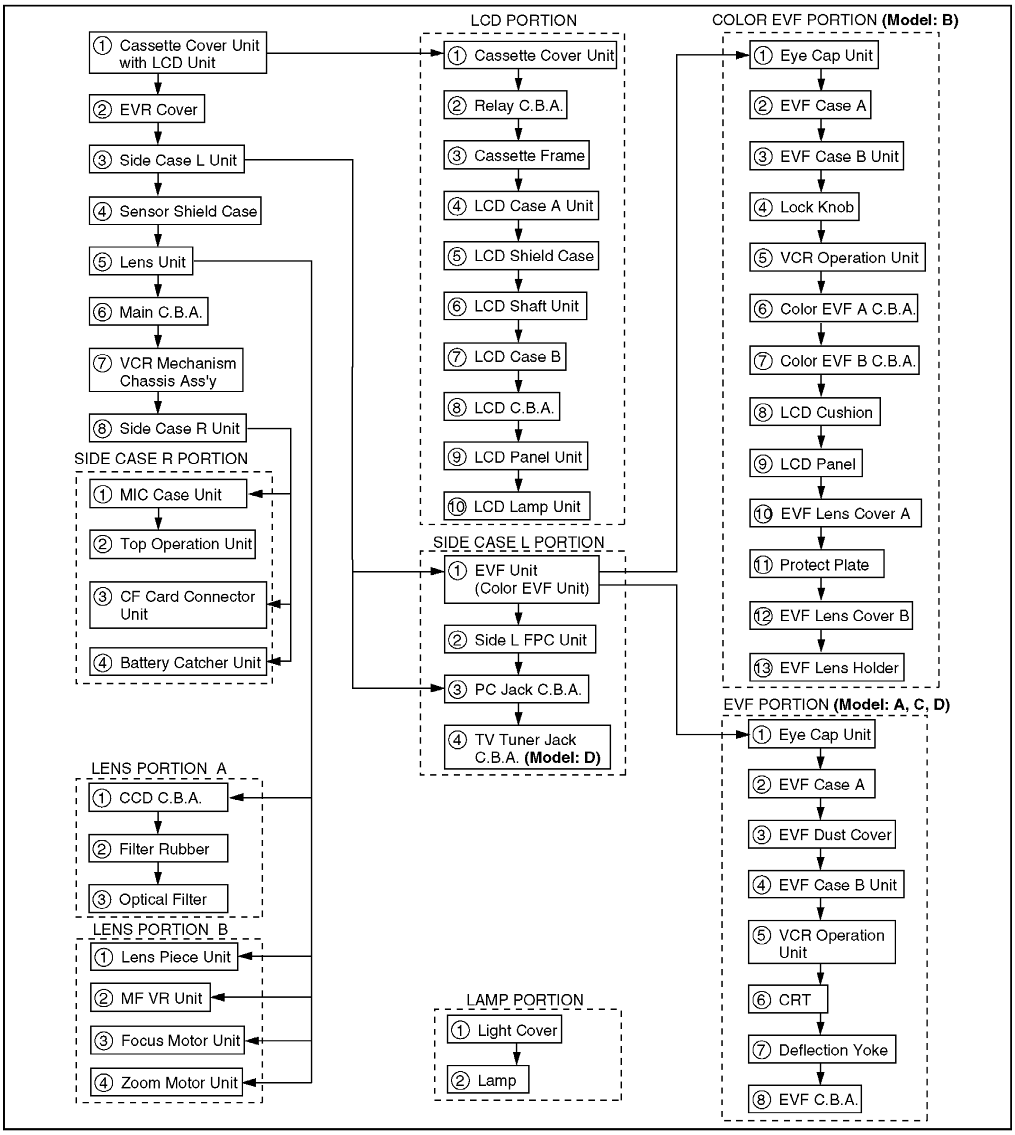
XN4601

6. DISASSEMBLY/ASSEMBLY PROCEDURES

6.1. CABINET SECTION

6.1.1. Disassembly Flowchart

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.



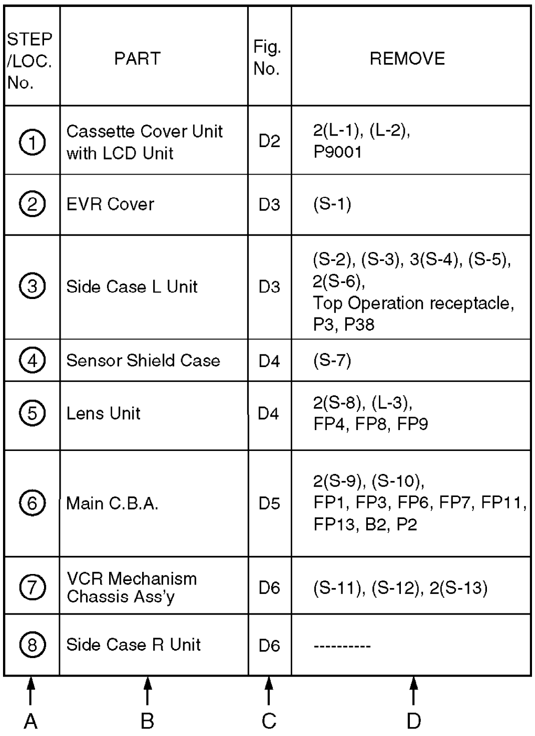
① Cassette Cover Unit with LCD Unit
② EVR Cover
③ Side Case L Unit
④ Sensor Shield Case
⑤ Lens Unit
⑥ Main C.B.A.
⑦ VCR Mechanism Chassis Ass'y
⑧ Side Case R Unit
SIDE CASE R PORTION
① MIC Case Unit
② Top Operation Unit
③ CF Card Connector Unit
④ Battery Catcher Unit
LENS PORTION A
① CCD C.B.A.
② Filter Rubber
③ Optical Filter
LENS PORTION B
① Lens Piece Unit
② MF VR Unit
③ Focus Motor Unit
④ Zoom Motor Unit
LCD PORTION
① Cassette Cover Unit
② Relay C.B.A.
③ Cassette Frame
④ LCD Case A Unit
⑤ LCD Shield Case
⑥ LCD Shaft Unit
⑦ LCD Case B
⑧ LCD C.B.A.
⑨ LCD Panel Unit
⑩ LCD Lamp Unit
SIDE CASE L PORTION
① EVF Unit (Color EVF Unit)
② Side L FPC Unit
③ PC Jack C.B.A.
④ TV Tuner Jack C.B.A. (Model: D)
LAMP PORTION
① Light Cover
② Lamp
COLOR EVF PORTION (Model: B)
① Eye Cap Unit
② EVF Case A
③ EVF Case B Unit
④ Lock Knob
⑤ VCR Operation Unit
⑥ Color EVF A C.B.A.
⑦ Color EVF B C.B.A.
⑧ LCD Cushion
⑨ LCD Panel
⑩ EVF Lens Cover A
⑪ Protect Plate
⑫ EVF Lens Cover B
⑬ EVF Lens Holder
EVF PORTION (Model: A, C, D)
① Eye Cap Unit
② EVF Case A
③ EVF Dust Cover
④ EVF Case B Unit
⑤ VCR Operation Unit
⑥ CRT
⑦ Deflection Yoke
⑧ EVF C.B.A.

Fig. D1

Note :

a. When removing the cabinet, work with care so as not to break the Locking Tabs.
b. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
c. When reinstalling, ensure that the connectors are connected and electrical components have not been damaged.
d. Do not supply power to the unit during disassembly and reassembly.

6.1.2. Main Parts Portion



STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Cassette Cover Unit with LCD Unit	D2	2(L-1), (L-2), P9001
②	EVR Cover	D3	(S-1)
③	Side Case L Unit	D3	(S-2), (S-3), 3(S-4), (S-5), 2(S-6), Top Operation receptacle, P3, P38
④	Sensor Shield Case	D4	(S-7)
⑤	Lens Unit	D4	2(S-8), (L-3), FP4, FP8, FP9
⑥	Main C.B.A.	D5	2(S-9), (S-10), FP1, FP3, FP6, FP7, FP11, FP13, B2, P2
⑦	VCR Mechanism Chassis Ass'y	D6	(S-11), (S-12), 2(S-13)
⑧	Side Case R Unit	D6	----------

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps(s) in reverse order. These numbers are also used as the identification (location) No. of parts in Figures.

B: Part to be removed or installed.

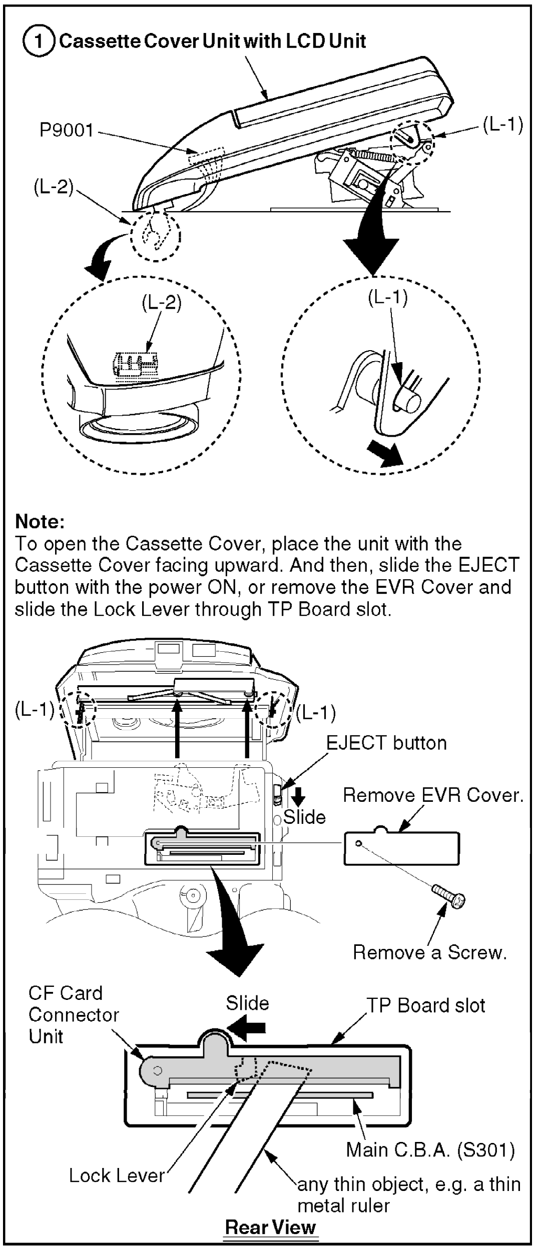
C: Fig. No. showing Procedure or Part Location.

D: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

3(S-1) = 3 Screws (S-1), 2(L-1) = 2 Looking Tabs (L-1)

6.1.2.1. Cassette Cover Unit with LCD Unit

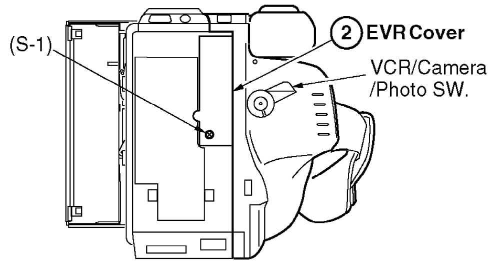
Fig. D2


① Cassette Cover Unit with LCD Unit
P9001
(L-1)
(L-2)
(L-2)
(L-1)
(L-1)
(L-1)
EJECT button
Remove EVR Cover.
Slide
Remove a Screw.
CF Card Connector Unit
Slide
TP Board slot
Main C.B.A. (S301)
Lock Lever
any thin object, e.g. a thin metal ruler
Rear View

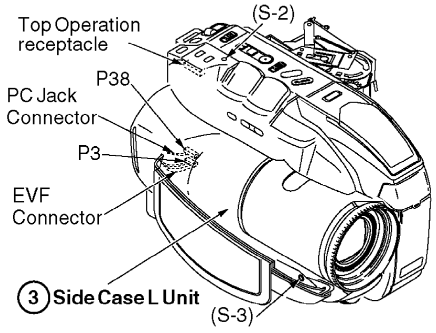
Note:
To open the Cassette Cover, place the unit with the Cassette Cover facing upward. And then, slide the EJECT button with the power ON, or remove the EVR Cover and slide the Lock Lever through TP Board slot.

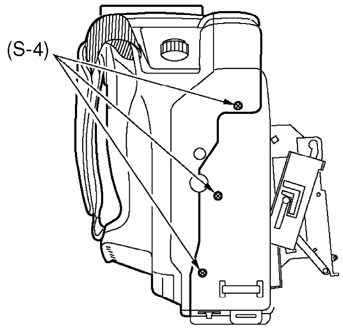
6.1.2.2. EVR Cover, Side Case L Unit

Fig. D3

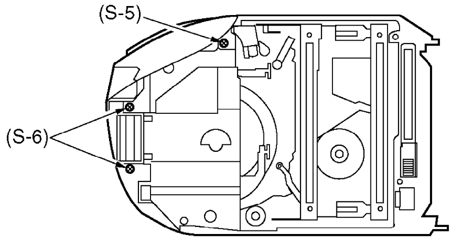

(S-1)
2 EVR Cover
VCR/Camera
/Photo SW.

Rear View


Top Operation
receptacle
(S-2)
P38
PC Jack
Connector
P3
EVF
Connector
3 Side Case L Unit
(S-3)



Bottom View



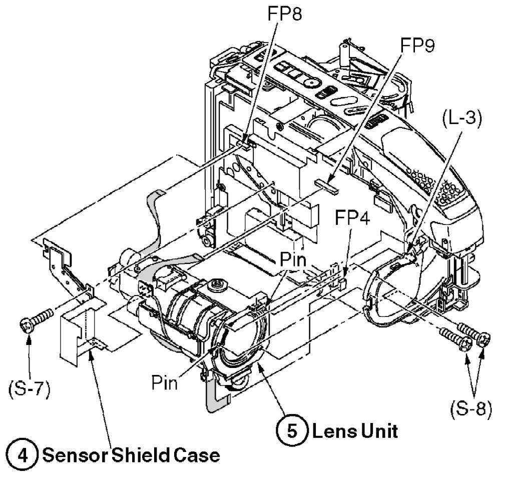
Side View

Reassembly Note:

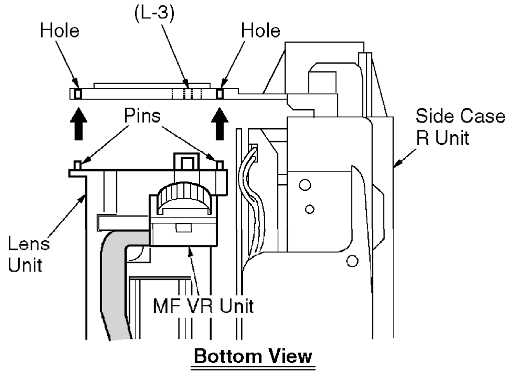
(1) Before installing the Side Case L Unit, set the VCR / Camera/Photo SW. to Camera mode or Photo mode.
(2) Connect the EVF Connector to the Connector P3 on the Main C.B.A., and PC Jack Connector to the P38 on the Main C.B.A.
(3) Install the Side Case L Unit, then tighten Screws.

6.1.2.3. Sensor Shield Case, Lens Unit

Fig. D4

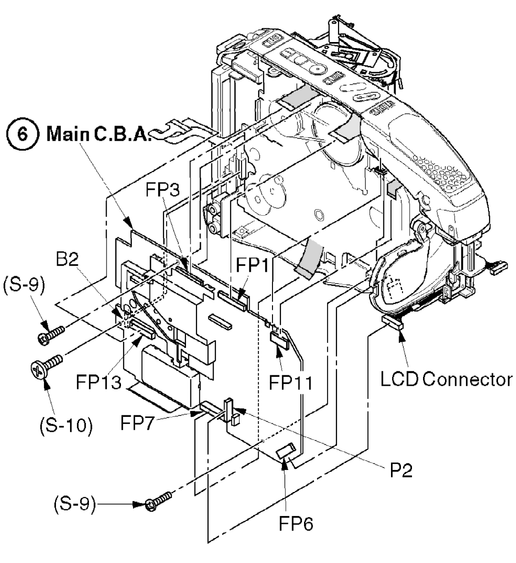

FP8
FP9
(L-3)
FP4
Pin
(S-7)
Pin
(S-8)
⑤ Lens Unit
④ Sensor Shield Case

Reassembly Note:
When installing the Lens Unit, insert Pins into Holes while setting the Locking Tab (L-3).


Hole
(L-3)
Hole
Pins
Side Case
R Unit
Lens
Unit
MF VR Unit
Bottom View

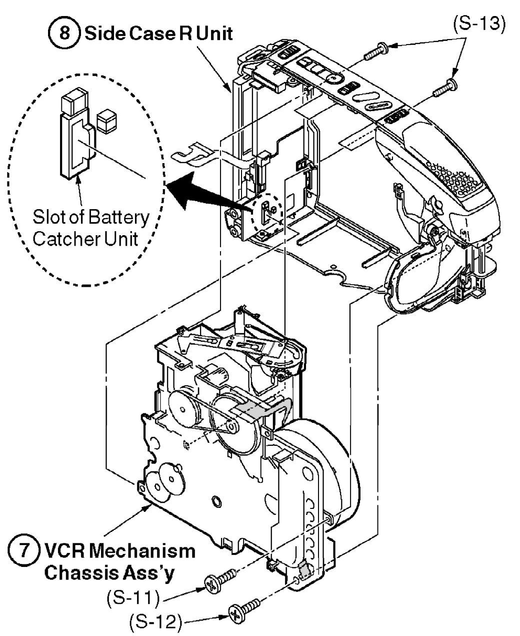
6.1.2.4. Main C.B.A.

Fig. D5


⑥ Main C.B.A.
FP3
B2
(S-9)
FP1
FP13
FP11
LCD Connector
(S-10)
FP7
P2
(S-9)
FP6

6.1.2.5. VCR Mechanism Chassis Ass'y, Side Case R Unit

Fig. D6


⑧ Side Case R Unit
(S-13)
Slot of Battery Catcher Unit
⑦ VCR Mechanism Chassis Ass'y
(S-11)
(S-12)

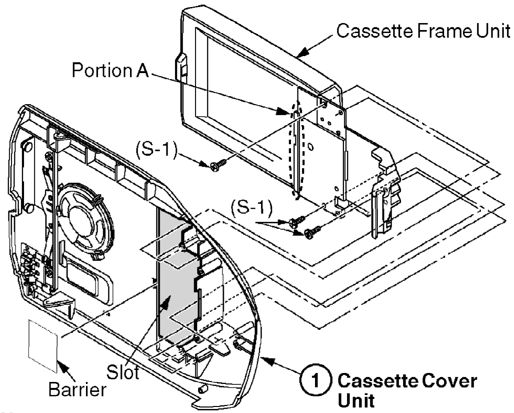
Reassembly Note:
The VCR Mechanism Chassis Ass'y is supplied with a Lock Screw installed. Make sure to remove the Lock Screw from Cassette Up Unit when replacing the VCR Mechanism Chassis Ass'y.

6.1.3. LCD PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Cassette Cover Unit	D7-1	3(S-1), Barrier
②	Relay C.B.A.	D7-2	(S-2), FP9002
③	Cassette Frame	D7-2	2(S-3)
④	LCD Case A Unit	D7-3	2(S-4), 7(L-1)
⑤	LCD Shield Case	D7-4	2(S-5)
⑥	LCD Shaft Unit	D7-4	FP1201
⑦	LCD Case B	D7-4	2(S-6)
⑧	LCD C.B.A.	D7-5	FP9001, Unsolder
⑨	LCD Panel Unit	D7-5	8(L-2)
⑩	LCD Lamp Unit	D7-6	3(L-3), LCD Sheet Unit

6.1.3.1. Cassette Cover Unit

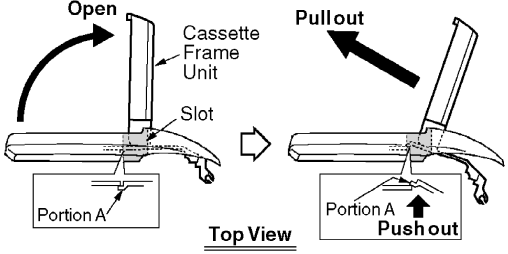
Fig. D7-1


Cassette Frame Unit
Portion A
(S-1)
(S-1)
Slot
Barrier
1 Cassette Cover Unit

Note:

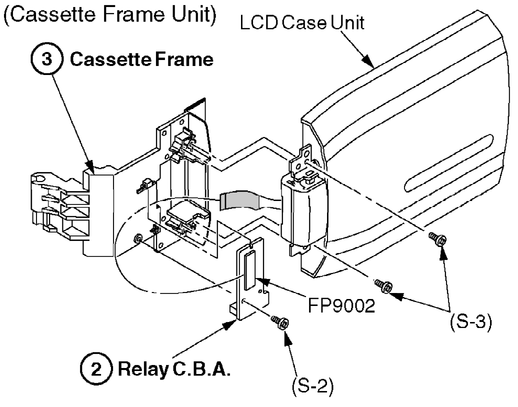
1. **Removal of the Cassette Frame Unit**

(1) Remove the Barrier.
(2) Remove 3 Screws (S-1).
(3) Open the LCD Case Unit as shown.
(4) Push Portion A of Cassette Frame Unit out of the slot shown in gray, then pull out the Cassette Frame Unit.

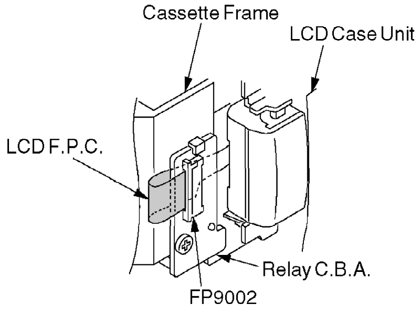

Open
Cassette Frame Unit
Slot
Portion A
Pull out
Portion A
Push out
Top View

6.1.3.2. Relay C.B.A., Cassette Frame

Fig. D7-2

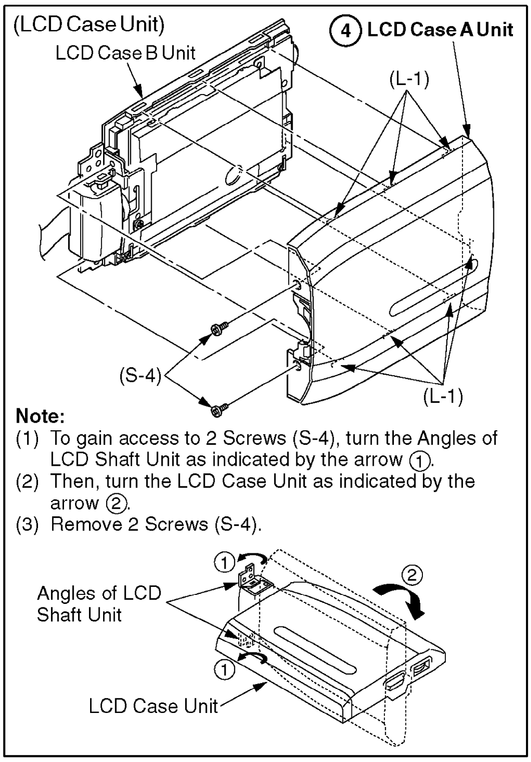

(Cassette Frame Unit)
LCD Case Unit
3 Cassette Frame
FP9002
(S-3)
2 Relay C.B.A.
(S-2)

Reassembly Note:
When installing the Relay C.B.A. and the Cassette Frame, connect the LCD F.P.C. to Connector FP9002 on Relay C.B.A. as shown.


Cassette Frame
LCD Case Unit
LCD F.P.C.
Relay C.B.A.
FP9002

6.1.3.3. LCD Case Ass'y

Fig. D7-3


(LCD Case Unit)
LCD Case B Unit
④ LCD Case A Unit
(L-1)
(S-4)
(L-1)
①
②
Angles of LCD Shaft Unit
①
LCD Case Unit

Note:

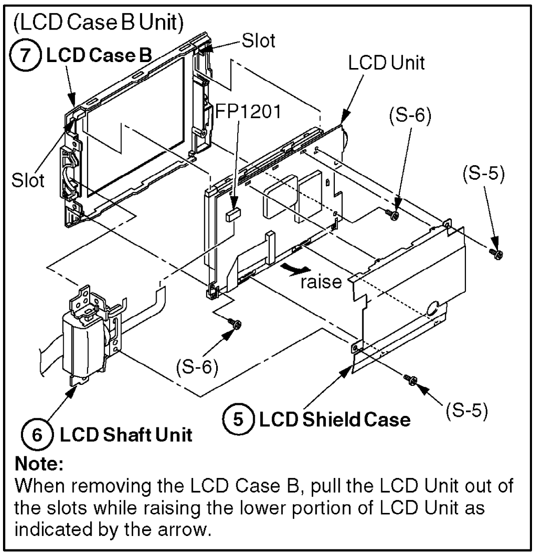
(1) To gain access to 2 Screws (S-4), turn the Angles of LCD Shaft Unit as indicated by the arrow ①.

(2) Then, turn the LCD Case Unit as indicated by the arrow ②.

(3) Remove 2 Screws (S-4).

6.1.3.4. LCD Shield Case, LCD Shaft Unit, LCD Case B

Fig. D7-4


(LCD Case B Unit)
⑦ LCD Case B
Slot
LCD Unit
FP1201
(S-6)
(S-5)
Slot
raise
(S-6)
⑤ LCD Shield Case
(S-5)
⑥ LCD Shaft Unit

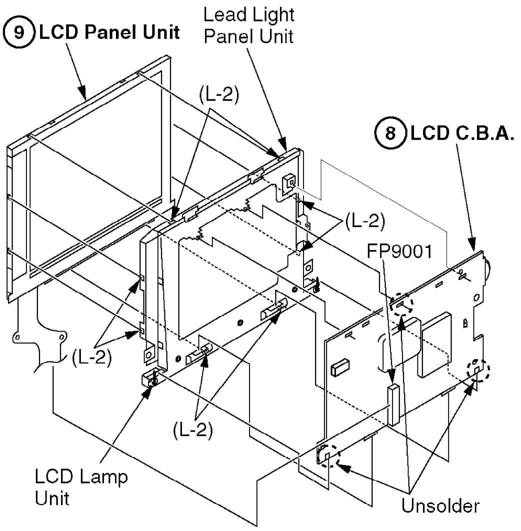
Note:

When removing the LCD Case B, pull the LCD Unit out of the slots while raising the lower portion of LCD Unit as indicated by the arrow.

6.1.3.5. LCD C.B.A., LCD Panel Unit

Fig. D7-5

(LCD Unit)

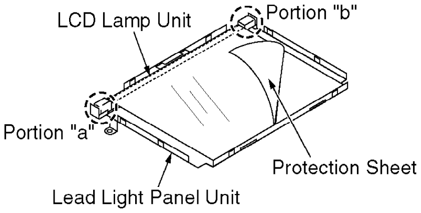

⑨ LCD Panel Unit
Lead Light Panel Unit
(L-2)
⑧ LCD C.B.A.
(L-2)
FP9001
(L-2)
(L-2)
LCD Lamp Unit
Unsolder

Reassembly Note:

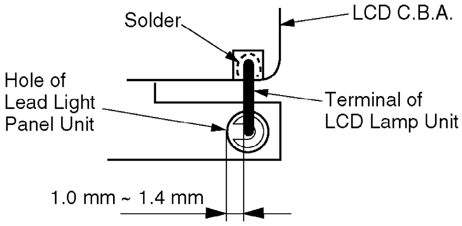
(1) When replacing the Lead Light Panel Unit, make sure to remove Protection Sheet as shown below.

(2) Use extreme care when handling the Lead Light Panel Unit and the LCD Panel Unit to avoid damage, dust, and spots (especially fingerprints, etc.).
The use of clean cotton gloves when available is highly recommended.

(3) Be careful not to apply any pressure to Portion "a" and "b" of the LCD Lamp Unit as shown below.


LCD Lamp Unit
Portion "b"
Portion "a"
Protection Sheet
Lead Light Panel Unit

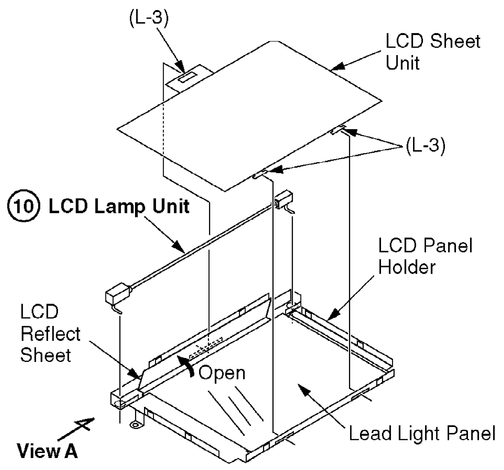
(4) After replacing the Lead Light Panel Unit, confirm that the Terminal of LCD Lamp Unit is soldered correctly as shown below.


Solder
LCD C.B.A.
Hole of Lead Light Panel Unit
Terminal of LCD Lamp Unit
1.0 mm ~ 1.4 mm

6.1.3.6. LCD Lamp Unit

Fig. D7-6

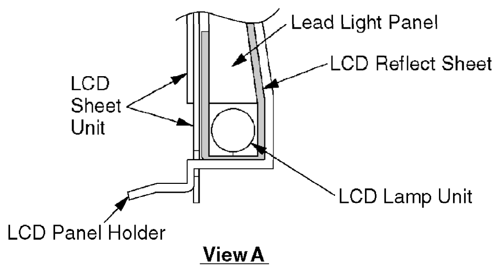
(Lead Light Panel Unit)


(L-3)
LCD Sheet Unit
(L-3)
⑩ LCD Lamp Unit
LCD Panel Holder
LCD Reflect Sheet
Open
Lead Light Panel
View A

Reassembly Note:

(1) When installing the LCD Lamp Unit, confirm that the LCD Lamp Unit is positioned as shown below.

(2) Use extreme care when handling the Lead Light Panel and the LCD Sheet Unit to avoid damage, dust, and spots (especially fingerprints, etc.).


Lead Light Panel
LCD Reflect Sheet
LCD Sheet Unit
LCD Lamp Unit
LCD Panel Holder

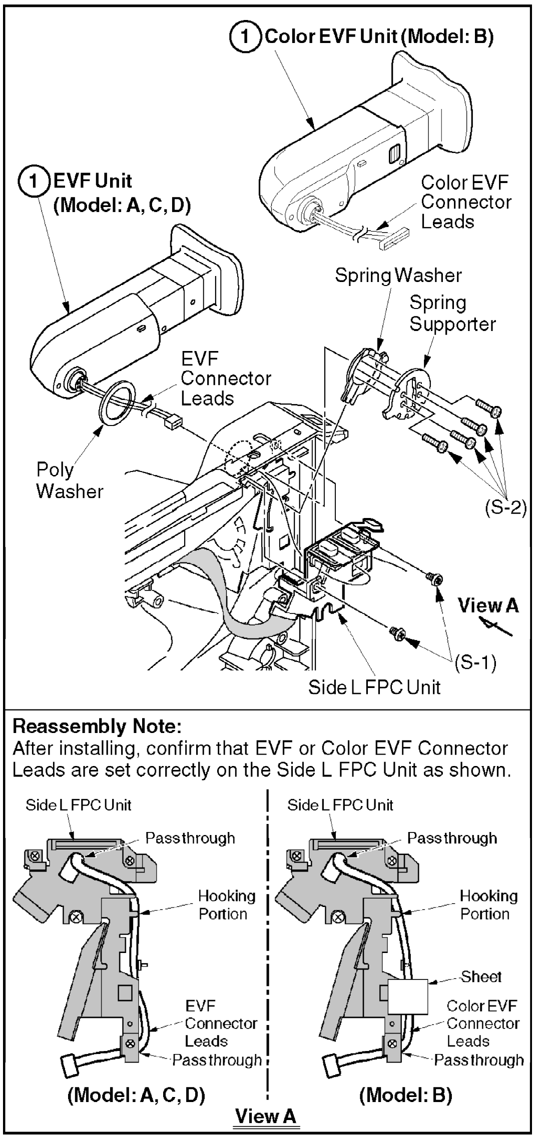
View A

6.1.4. SIDE CASE L PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	EVF Unit (Color EVF Unit)	D8-1	2(S-1), 4(S-2), Spring Supporter, Spring Washer, Poly Washer
②	Side L FPC Unit	D8-2	(S-3), 3(S-4), 2(L-1), Arm, Arm Holder
③	PC Jack C.B.A.	D8-3	2(S-5)
④	TV Tuner Jack C.B.A.	D8-3	(S-6)

6.1.4.1. EVF Unit (Color EVF Unit)

Fig. D8-1

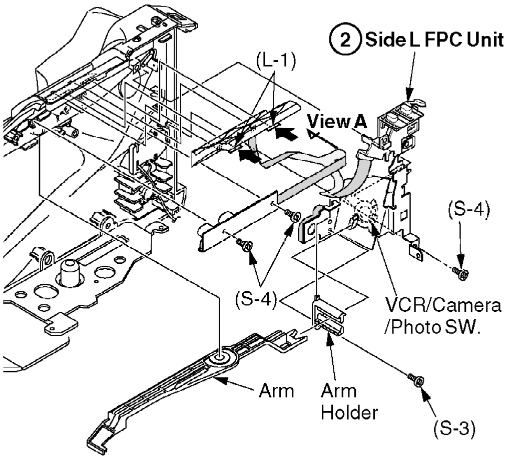

1 Color EVF Unit (Model: B)
1 EVF Unit (Model: A, C, D)
Color EVF Connector Leads
Spring Washer
Spring Supporter
EVF Connector Leads
Poly Washer
(S-2)
View A
(S-1)
Side L FPC Unit

Reassembly Note:
After installing, confirm that EVF or Color EVF Connector Leads are set correctly on the Side L FPC Unit as shown.

Side L FPC Unit
Pass through
Hooking Portion
EVF Connector Leads
Pass through
(Model: A, C, D)
Side L FPC Unit
Pass through
Hooking Portion
Sheet
Color EVF Connector Leads
Pass through
(Model: B)
View A

Fig. D8-2

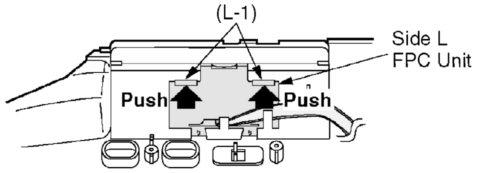
6.1.4.2. Side L FPC Unit


② Side L FPC Unit
(L-1)
View A
(S-4)
(S-4)
VCR/Camera /Photo SW.
Arm
Arm Holder
(S-3)

Note:

1. **Removal of the Side L FPC Unit**

(1) Remove the Arm first.
(2) Remove Screw (S-3). Then, remove the Arm Holder.
(3) Remove 3 Screws (S-4).
(4) Remove the Side L FPC Unit after releasing 2 Locking Tabs (L-1) by pushing as indicated by the arrow.

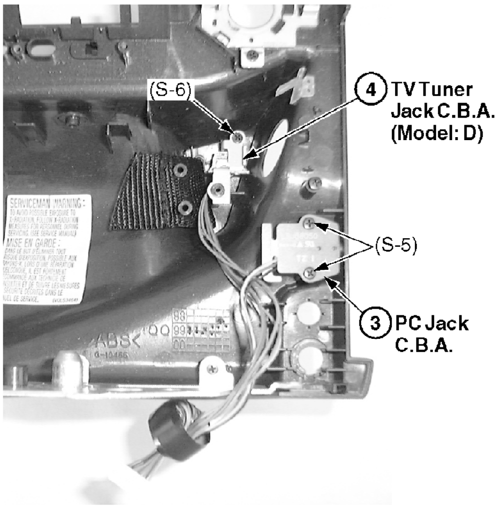

(L-1)
Side L FPC Unit
Push
Push

View A

Reassembly Note:
When installing the Side L FPC Unit, set the VCR/Camera /Photo SW. to Camera mode or Photo mode.

6.1.4.3. PC Jack C.B.A., TV Tuner Jack C.B.A. (Model:D)

Fig. D8-3


(S-6)
④ TV Tuner Jack C.B.A. (Model: D)
(S-5)
③ PC Jack C.B.A.

6.1.5. EVF PORTION (Model: A, C, D)

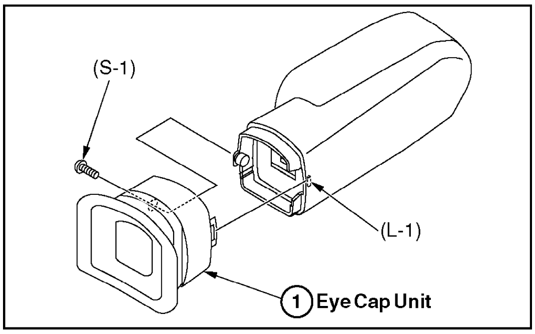
STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Eye Cap Unit	D9-1	(S-1), (L-1)
②	EVF Case A	D9-2	2(S-2), 5(L-2)
③	EVF Dust Cover	D9-2	-----
④	EVF Case B Unit	D9-2	-----
⑤	VCR Operation Unit	D9-3	FP901
⑥	CRT	D9-3	CRT Socket Unit
⑦	Deflection Yoke	D9-3	P903
⑧	EVF C.B.A.	D9-3	-----

Note:

When disassembling or reassembling, make sure that no dust gets in EVF Unit.

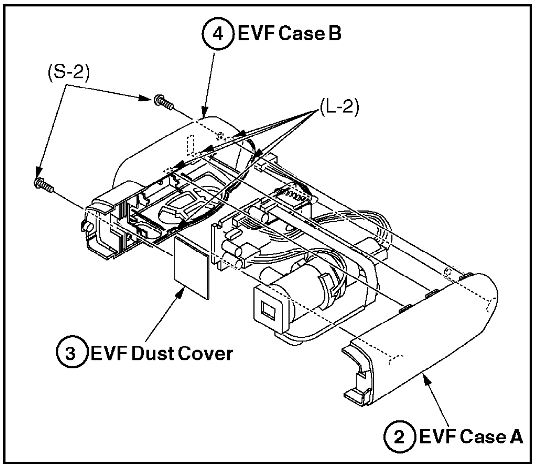
6.1.5.1. Eye Cap Unit

Fig. D9-1


(S-1)
(L-1)
1 Eye Cap Unit

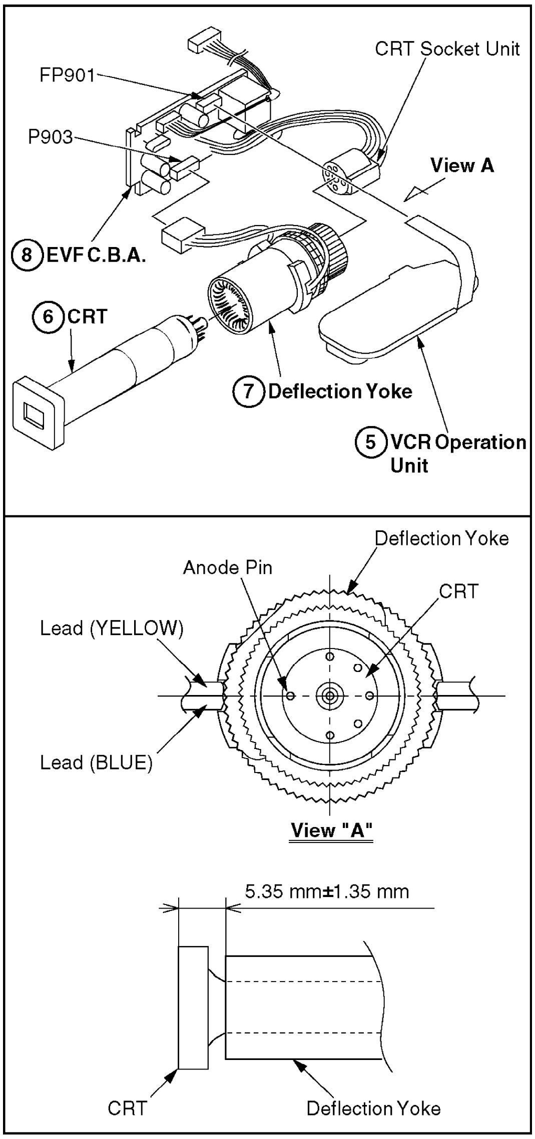
6.1.5.2. EVF Case A, EVF Dust Cover, EVF Case Unit

Fig. D9-2


4 EVF Case B
(S-2)
(L-2)
3 EVF Dust Cover
2 EVF Case A

6.1.5.3. VCR Operation Unit, CRT, Deflection Yoke, EVF C.B.A.

Fig. D9-3


CRT Socket Unit
FP901
P903
View A
⑧ EVF C.B.A.
⑥ CRT
⑦ Deflection Yoke
⑤ VCR Operation Unit
Deflection Yoke
Anode Pin
CRT
Lead (YELLOW)
Lead (BLUE)
View "A"
5.35 mm±1.35 mm
CRT
Deflection Yoke

6.1.6. COLOR EVF PORTION (Model: B)

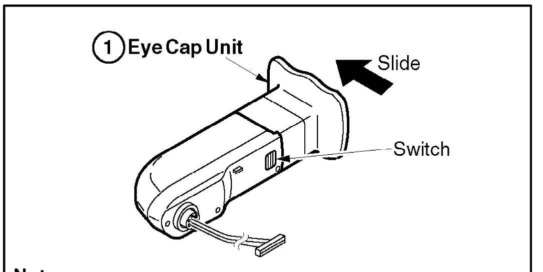
STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Eye Cap Unit	D10-1	-----
②	EVF Case A	D10-2	2(S-1), 6(L-1)
③	EVF Case B Unit	D10-2	-----
④	Lock Knob	D10-2	Lock Spring
⑤	VCR Operation Unit	D10-2	FP901
⑥	Color EVF A C.B.A.	D10-3	FP902, B902
⑦	Color EVF B C.B.A.	D10-3	4(L-2)
⑧	LCD Cushion	D10-3	-----
⑨	LCD Panel	D10-3	-----
⑩	EVF Lens Cover A	D10-3	2(L-3)
⑪	Protect Plate	D10-3	-----
⑫	EVF Lens Cover B	D10-3	-----
⑬	EVF Lens Holder	D10-3	-----

Note:

When disassembling or reassembling, make sure that no dust gets in Color EVF Unit.

6.1.6.1. EVR Cover, Side Csae L Unit

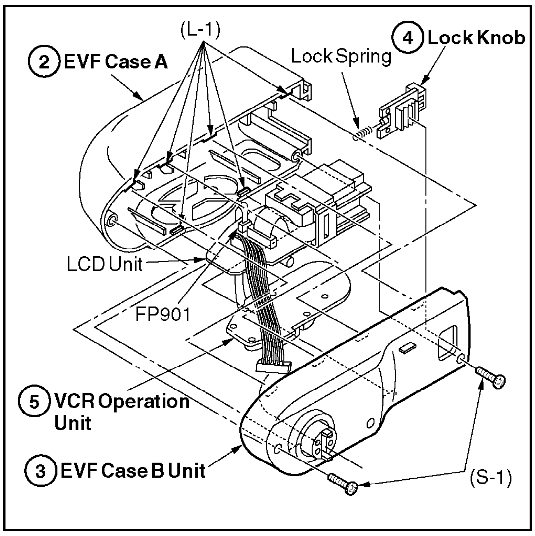
Fig. D10-1



Note:
To remove the Eye Cap Unit, slide the Eye Cap Unit as indicated by the arrow while sliding Switch.

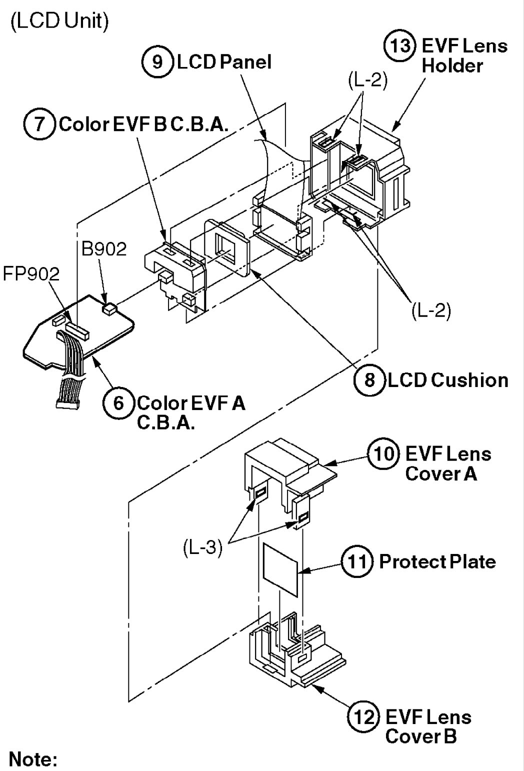
6.1.6.2. EVF Case A, EVF Case B Unit, Lock Knob, VCR Operation Unit

Fig. D10-2


(L-1)
② EVF Case A
Lock Spring
④ Lock Knob
LCD Unit
FP901
⑤ VCR Operation Unit
③ EVF Case B Unit
(S-1)

6.1.6.3. Color EVF A C.B.A., Color EVF B C.B.A., LCD Cushion, LCD Panel, Protect Plate, EVF Lens Cover B, EVF Lens Holder

Fig. D10-3


(LCD Unit)
⑨ LCD Panel
⑬ EVF Lens Holder
(L-2)
⑦ Color EVF B C.B.A.
B902
FP902
(L-2)
⑧ LCD Cushion
⑥ Color EVF A C.B.A.
⑩ EVF Lens Cover A
(L-3)
⑪ Protect Plate
⑫ EVF Lens Cover B

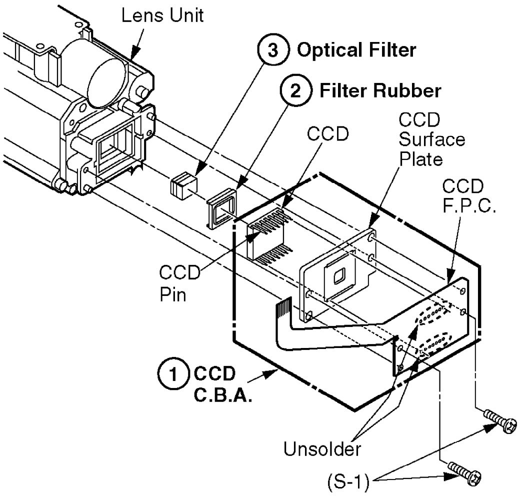
Note:
Use extreme care when handling the LCD Panel to avoid damage, dust, and spots (especially fingerprints, etc.).

6.1.7. LENS PORTION A

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	CCD C.B.A.	D11-1	2(S-1)
②	Filter Rubber	D11-1	-----
③	Optical Filter	D11-1	-----

6.1.7.1. CCD C.B.A., Filter Rubber, Optical Filter

Fig. D11-1


Lens Unit
③ Optical Filter
② Filter Rubber
CCD
CCD Surface Plate
CCD F.P.C.
CCD Pin
① CCD C.B.A.
Unsolder
(S-1)

Note:

1. **Removal of the CCD and the CCD Surface Plate**

(1) Unsolder the CCD Pins on the CCD F.P.C.

(2) Remove the CCD and the CCD Surface Plate from the CCD F.P.C.

CAUTION:

(1) When removing the CCD C.B.A., take care so that the Optical Filter does not fall out.

(2) Take extreme care when removing the CCD because it is easily damaged by static electricity.
Use a Wrist Strap while removing and installing.

(3) Do not apply heat to the CCD directly when soldering. Keep soldering time to a minimum to prevent damage to the CCD.

(4) Do not touch the CCD window surface when servicing.

Fig. D11-2

Reassembly Note:

1. **Installation of the Optical Filter**

(1) Install the Optical Filter in the Lens Unit correctly.

Note:

Be sure to install the Optical Filter with the thinnest layer of the Optical Filter facing toward the Lens Unit. Make sure that no dust gets on the Optical Filter and in the Lens Unit. Clean the Optical Filter with lens cleaning paper dampened with lens cleaner if necessary.

2. **Installation of the Filter Rubber**

(1) Install the Filter Rubber on the Optical Filter with the ridge side facing toward the Optical Filter.

Note:

Make sure that no dust gets on the Filter Rubber.

3. **Installation of the CCD C.B.A.**

(1) Place the CCD Surface Plate so that Holes (A) are aligned with Holes (B) on the CCD F.P.C.

(2) Carefully install the CCD onto the CCD F.P.C. by soldering.

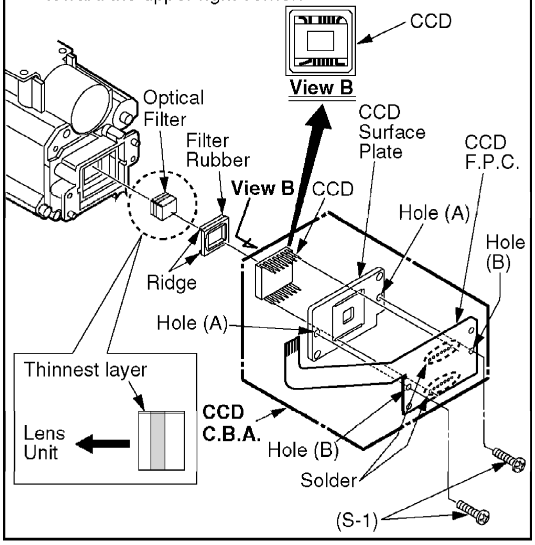
Note:

Do not apply heat to the CCD directly when soldering. Keep soldering time to a minimum to prevent damage to the CCD.

Install the CCD and CCD Surface Plate so that there are no gaps between them.

When installing, do not touch the CCD window surface and make sure that no dust gets on the CCD. Clean the CCD window surface with lens cleaning paper dampened with lens cleaner if necessary.

(3) Install the CCD C.B.A. to the Lens Unit. Then, secure 2 Screws (S-1) while keeping the CCD C.B.A. pressed toward the upper right corner.

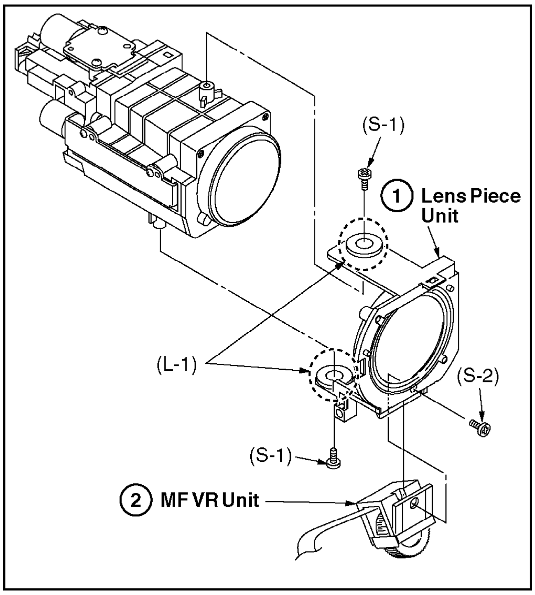


6.1.8. LENS PORTION B

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Lens Piece Unit	D12-1	2(S-1), 2(L-1)
②	MF VR Unit	D12-1	(S-2)
③	Focus Motor Unit	D12-2	2(S-3), Unsolder
④	Zoom Motor Unit	D12-2	(S-4), 2(S-5), Unsolder

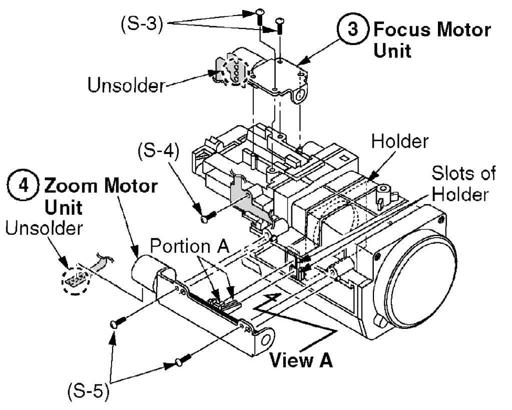
6.1.8.1. Lens Piece Unit, MF VR Unit

Fig. D12-1

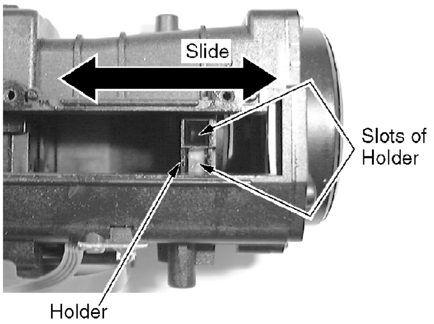

(S-1)
① Lens Piece Unit
(L-1)
(S-2)
(S-1)
② MF VR Unit

6.1.8.2. Focus Motor Unit, Zoom Motor Unit

Fig. D12-2


(S-3)
③ Focus Motor Unit
Unsolder
(S-4)
Holder
Slots of Holder
④ Zoom Motor Unit
Unsolder
Portion A
View A
(S-5)

Reassembly Note:
When installing the Zoom Motor Unit, install so that the Portion A of Zoom Motor Unit is inserted to Slots of Holder by sliding the Holder.


Slide
Slots of Holder
Holder

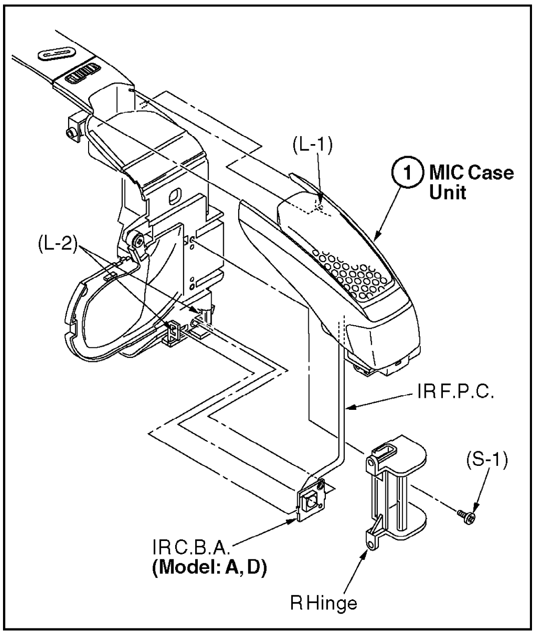
View A

6.1.9. SIDE CASE R PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	MIC Case Unit	D13-1	(S-1), (L-1), 2(L-2), R Hinge
②	Top Operation Unit	D13-2	(S-2), (L-3)
③	CF Card Connector Unit	D13-3	-----
④	Battery Catcher Unit	D13-4	(S-3), Buckup Cover, Battery

6.1.9.1. MIC Case Unit

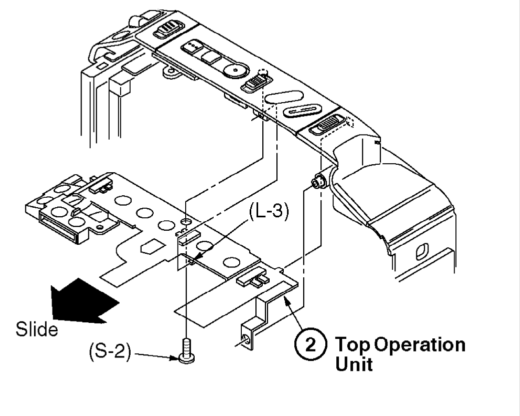
Fig. D13-1



(L-1)
① MIC Case Unit
(L-2)
IR F.P.C.
(S-1)
IR C.B.A.
(Model: A, D)
R Hinge

6.1.9.2. Top Operation Unit

Fig. D13-2

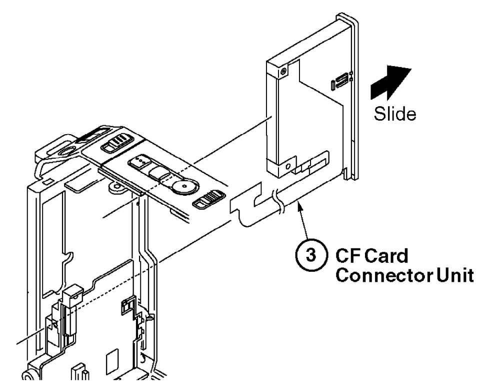


(L-3)
Slide
(S-2)
② Top Operation Unit

Note:
(1) To remove the Top Operation Unit, release the Locking Tab (L-3).
(2) Remove the Top Operation Unit while sliding it as indicated by the arrow.

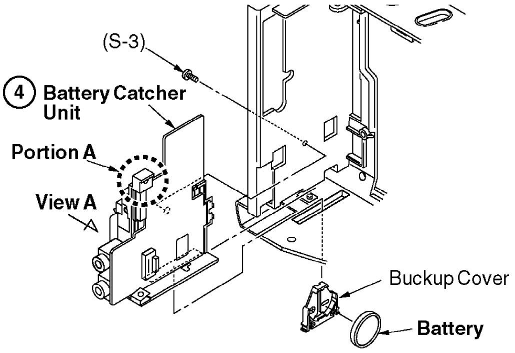
6.1.9.3. CF Card Connector Unit

Fig. D13-3


Slide
③ CF Card Connector Unit

6.1.9.4. Battery Catcher Unit

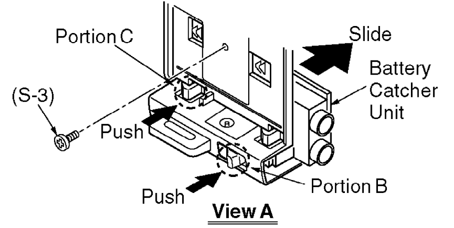
Fig. D13-4


(S-3)
④ Battery Catcher Unit
Portion A
View A
Buckup Cover
Battery

WARNING:
DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

CAUTION:
Be careful not to break Portion A when removing or installing the Battery Catcher Unit.

Note:
(1) To remove the Battery Catcher Unit, first remove the Backup Cover with the Battery.
(2) Remove Screw (S-3).
(3) Slide the Battery Catcher Unit out by pushing Portion B and C as indicated by the arrow.


Portion C
Slide
Battery Catcher Unit
(S-3)
Push
Push
Portion B
View A

6.1.10. LAMP PORTION

DANGER:
When replacing the Lamp, use only Lamp (Part No. VLLW0015) supplied by Panasonic to reduce the risk of fire. Use a cloth or tissue when handling the Lamp as finger oils will decrease the Lamp life.
To prevent possible burn hazard, remove the Light Cover and allow the Lamp to cool before replacing.

Note:

1. Lamp is supplied as a Lamp Kit only (Kit No. VULS0001) which

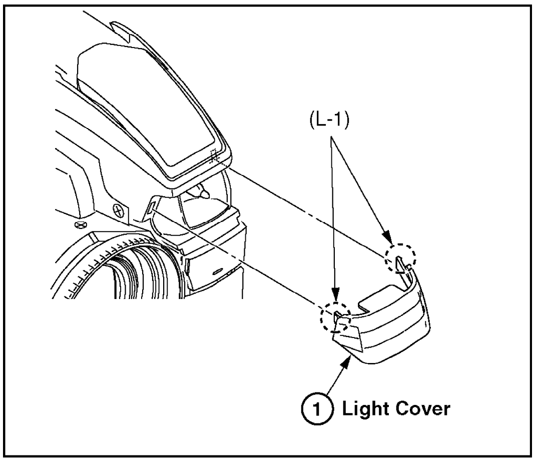
contains Lamp, Cushions, and Explanation Sheet.

2. For more details of the Lamp replacement, refer to the Explanation Sheet in the Lamp Kit (VULS0001).

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Light Cover	D14-1	2(L-1)
②	Lamp	D14-2	--------------------

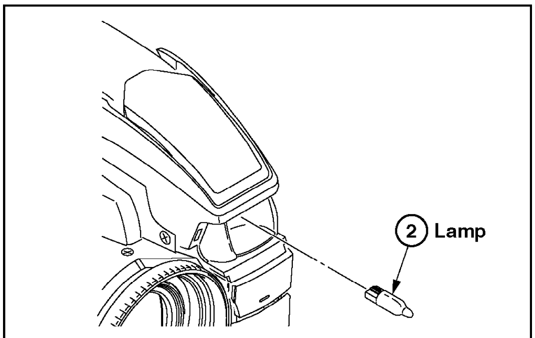
6.1.10.1. Light Cover

Fig. D14-1



6.1.10.2. Lamp

Fig. D14-2



Note:
1) When removing the Lamp, use Needle-nose Pliers etc.
2) When installing the Lamp, do not touch the surface of Lamp directly. Use a clean cloth or tissue to install the Lamp.

6.2. MECHANISM SECTION

6.2.1. Disassembly Method

This procedure starts with the condition that the cabinet parts and Main C.B.A. have been removed.
When reassembling, perform the step(s) in the reverse order.
Perform all disassembly and alignments procedures in STOP Position except disassembly and alignment procedures which have the special Notes.

STEP LOC. No.	Prior Step (s)	Part	Fig. No.	Remove
①	-	Cassette Up Unit	DM3-1,2	2(S-1), 2(L-1)
②	-	Cylinder Ass'y	DM4-1	3(S-1), Hooking Portion
③	2	Upper Cylinder Unit	DM4-2,3	(S-1)
④	2	Cylinder/Head Amp F.P.C.	DM4-2,3	FP3501
⑤	2	Bulge Chip	DM4-2,3	(S-2)
⑥	-	P.C.B. Angle	DM5	(S-1)
⑦	-	Mechanism F.P.C. Unit	DM6-1,2	4(S-1), Hooking Portion, double-sided adhesive tape, Unsolder Gear Alignment (x1)
⑧	1,9	Tension Unit	DM7-1,2	(C-1), Hooking Portion
⑨	1,8	Reel Table Unit	DM7-1,2	(C-2), (W-1)
⑩	1,8,9	Rev Clutch	DM8	(C-1)
⑪	1	Take Gear	DM9-1,2	(L-1)
⑫	1,11	Rev Brake Arm Unit	DM9-1,2	(C-1), Hooking Portion
⑬	-	A/C Head Unit	DM10	(S-1), Unsolder
⑭	-	Capstan Belt	DM11	-
⑮	6,13,14	Capstan Unit	DM12	2(S-1), (S-2)
⑯	1,6,7,11,12,14	Idler Arm Unit	DM13	(C-1)
⑰	2	Mechanism Support Angle	DM14	(S-1)
⑱	1	Reduction Gear B	DM15	(C-1)
⑲	-	Reduction Gear A	DM16	(C-1)
⑳	1,18	Reduction Gear Unit	DM16	2(S-1)
㉑	1	Pinch Arm Unit	DM17-1,2	(C-1)
㉒	1	Opener	DM17-1,2	(S-1)
㉓	1,11,21,22	P5 Arm Unit	DM17-1,2	Hooking Portion
㉔	1,17	Takeup Post Unit	DM18-1,2	(S-1)
㉕	1	Supply Post Unit	DM18-1,2	(S-2)
㉖	-	Impedance Roller Unit	DM19-1,2	(C-1)
㉗	1,2,13,24,25	Loading Base Unit	DM19-1,2	4(S-1)
㉘	1,2,8,9,13,24,25,27	Takeup Loading Arm Unit	DM20	- Gear Alignment (x1)
㉙	1,2,8,9,13,24,25,27	Supply Loading Arm Unit	DM21-1,2,3	- Gear Alignment (x2)
㉚	8,9,19	Loading Motor Unit	DM22	2(S-1)
㉛	1,2,8,9,10,18,19,20,24,25,27,29,30	Main Cam Unit	DM22	-
㉜	1,2,8,9,10,18,19,20,24,25,27,29,30,31	Pinch Toggle	DM22	-

A B C D E

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.
B: Steps to be completed prior to the current step.
C: Part to be removed or installed.
D: Fig. No. showing Procedure or Part Location.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(S-1)=3 Screws (S-1), 3(W-1)=3 Washers (W-1),
(C-1)=Cut Washer (C-1), 2(L-1) =2 Looking Tabs (L-1)

CAUTION:

a. Use a wrist strap to provide ESD protection while disassembling or assembling.

b. Removed Cut Washer is not reusable. If removed, install a new one.
Following Cut Washers are to be used:

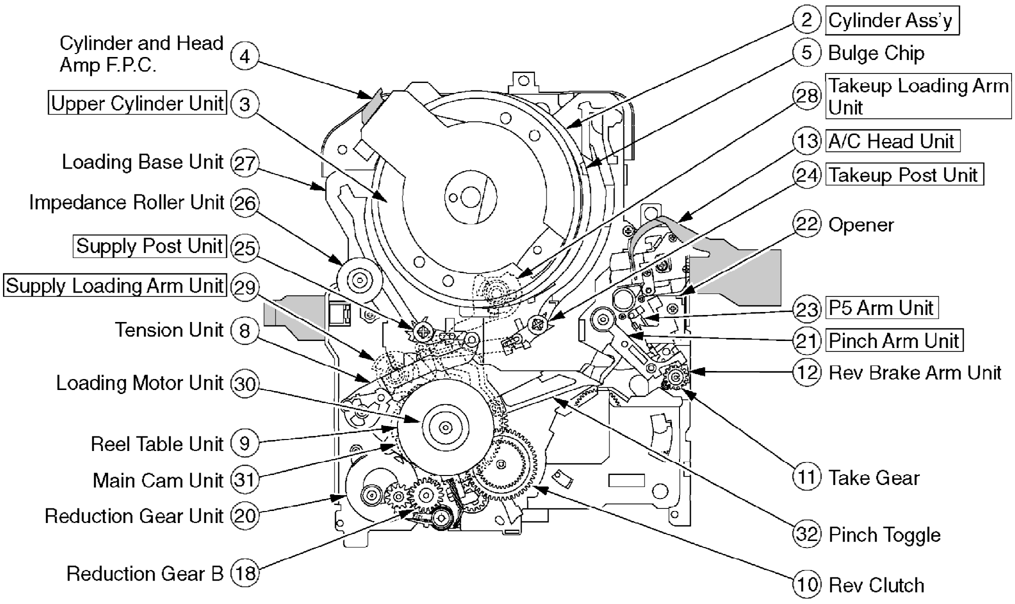
Ref. No.	Part No.
409	VMXW0217
411	VMXW0213
419	VMX2026

6.2.2. Inner Parts Location

Note: BOX indicates alignment (Gear alignment or Tape Interchangeability adjustment) required when a part is replaced.

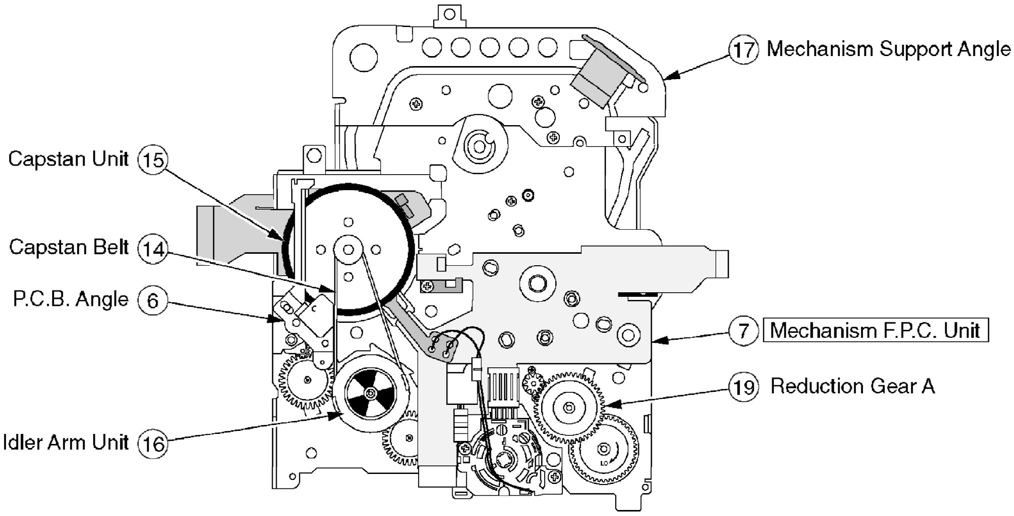
6.2.2.1. TOP VIEW

Fig. DM1-1


Cylinder and Head Amp F.P.C. ④
Upper Cylinder Unit ③
Loading Base Unit ㉗
Impedance Roller Unit ㉖
Supply Post Unit ㉕
Supply Loading Arm Unit ㉙
Tension Unit ⑧
Loading Motor Unit ㉚
Reel Table Unit ⑨
Main Cam Unit ㉛
Reduction Gear Unit ⑳
Reduction Gear B ⑱
② Cylinder Ass'y
⑤ Bulge Chip
㉘ Takeup Loading Arm Unit
⑬ A/C Head Unit
㉔ Takeup Post Unit
㉒ Opener
㉓ P5 Arm Unit
㉑ Pinch Arm Unit
⑫ Rev Brake Arm Unit
⑪ Take Gear
(32) Pinch Toggle
⑩ Rev Clutch

6.2.2.2. BOTTOM VIEW

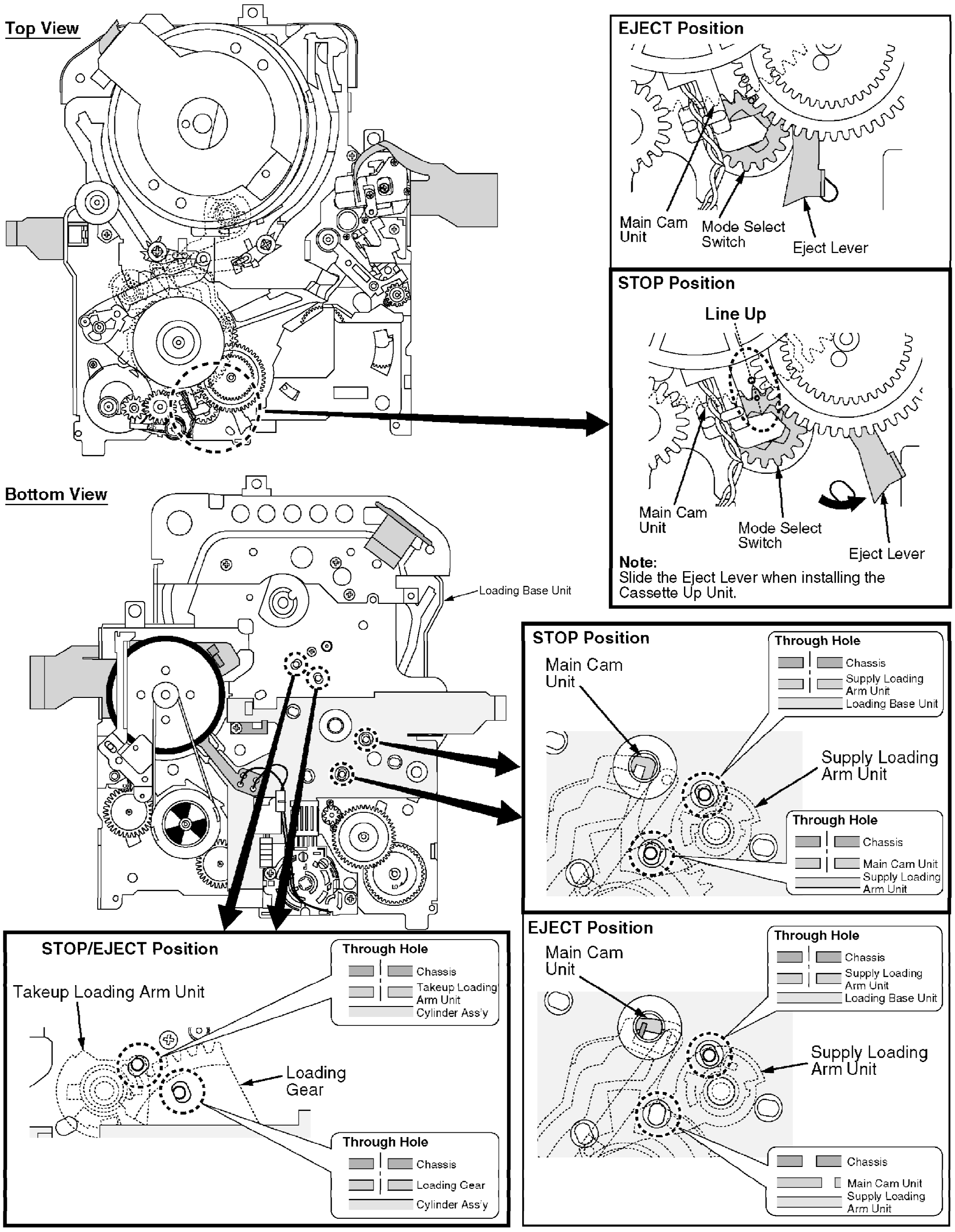
Fig. DM1-2


Capstan Unit ⑮
Capstan Belt ⑭
P.C.B. Angle ⑥
Idler Arm Unit ⑯
⑰ Mechanism Support Angle
⑦ Mechanism F.P.C. Unit
⑲ Reduction Gear A

6.2.3. STOP Position Confirmation

Check the following alignment points to confirm that the Mechanism is in STOP Position from the Top and Bottom View.

Fig. DM2

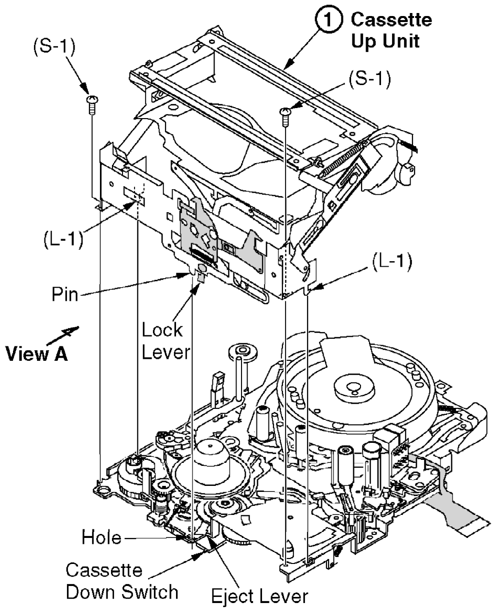

Top View
Bottom View
EJECT Position
Main Cam Unit
Mode Select Switch
Eject Lever
STOP Position
Line Up
Main Cam Unit
Mode Select Switch
Eject Lever
Loading Base Unit
STOP Position
Main Cam Unit
Through Hole
Chassis
Supply Loading Arm Unit
Loading Base Unit
Supply Loading Arm Unit
Through Hole
Chassis
Main Cam Unit
Supply Loading Arm Unit
EJECT Position
Main Cam Unit
Through Hole
Chassis
Supply Loading Arm Unit
Loading Base Unit
Supply Loading Arm Unit
Chassis
Main Cam Unit
Supply Loading Arm Unit
STOP/EJECT Position
Takeup Loading Arm Unit
Through Hole
Chassis
Takeup Loading Arm Unit
Cylinder Ass'y
Loading Gear
Through Hole
Chassis
Loading Gear
Cylinder Ass'y

Note:
Slide the Eject Lever when installing the Cassette Up Unit.

Perform all disassembly and alignments procedures in STOP Position except disassembly and alignment procedures which have the special Notes.

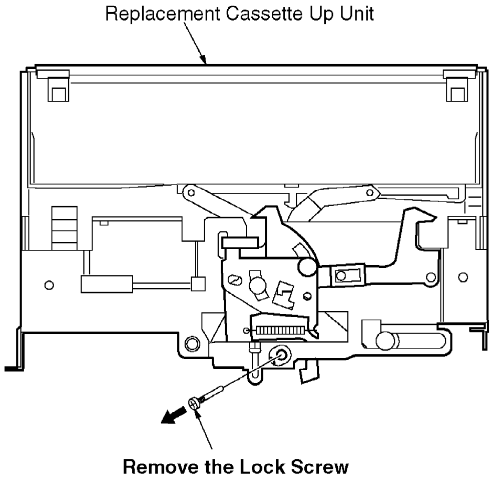
6.2.4. Cassette Up Unit

Fig. DM3-1



① Cassette Up Unit
(S-1)
(S-1)
(L-1)
(L-1)
Pin
Lock Lever
View A
Hole
Cassette Down Switch
Eject Lever

Note:
The replacement Cassette Up Unit is supplied with a Lock Screw installed as shown below.
Make sure to remove this Lock Screw when replacing the Cassette Up Unit.



Replacement Cassette Up Unit
Remove the Lock Screw

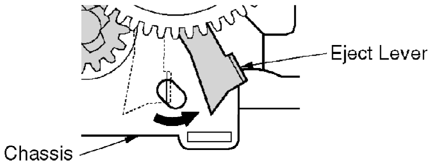
Fig. DM3-2

Reassembly Note:

1. **Installation of the Cassette Up Unit**

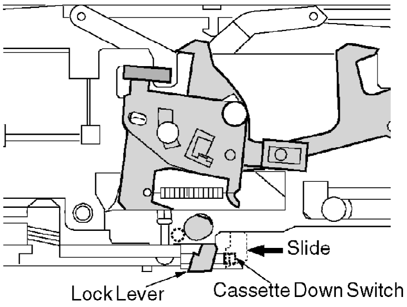
Installation is possible except when the Mechanism is in Eject Position.

(1) Before installing the Cassette Up Unit, confirm that the Eject Lever is slid as shown.


Eject Lever
Chassis

Top View

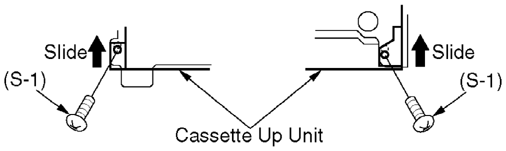
(2) Slide the Lock Lever. (Otherwise, the Lock Lever may damage the Cassette Down Switch when installing the Cassette Up Unit.)


Slide
Lock Lever
Cassette Down Switch

View A

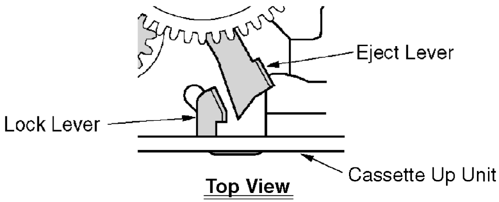
(3) Then, Install the Cassette Up Unit while setting 2 Locking Tabs (L-1). Next, insert Pin into Hole on the Chassis.

(4) Slide the Cassette Up Unit as far as possible as indicated by the arrow. Then, tighten 2 Screws (S-1).


Slide
(S-1)
Slide
(S-1)
Cassette Up Unit

Top View

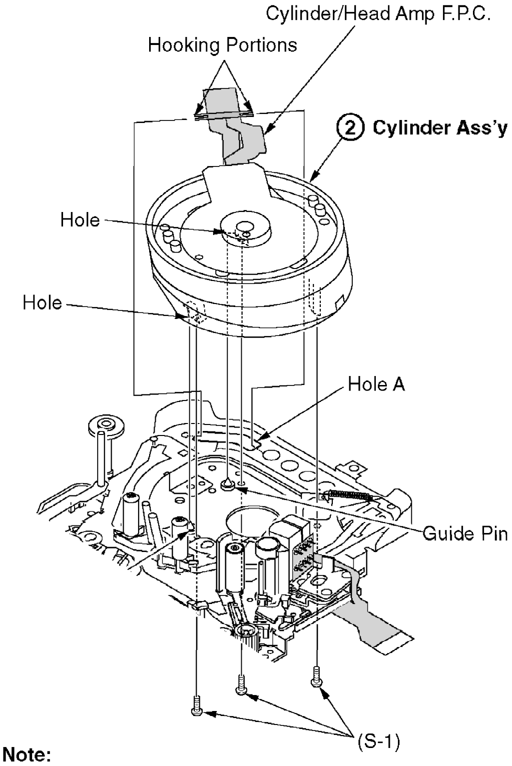
(5) After installing the Cassette Up Unit, confirm that the Lock Lever is on the left of the Eject Lever as shown.


Eject Lever
Lock Lever
Cassette Up Unit

Top View

6.2.5. Cylinder Ass'y

Fig. DM4-1-1


Cylinder/Head Amp F.P.C.
Hooking Portions
② Cylinder Ass'y
Hole
Hole
Hole A
Guide Pin
(S-1)

Note:

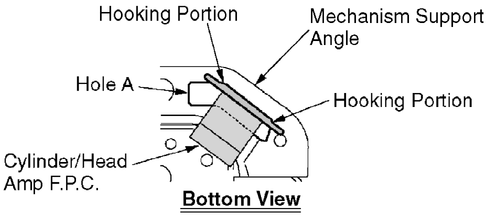
1. Use extreme care when removing the Cylinder Ass'y. Do not touch the Video Heads during servicing.
2. **Removal of the Cylinder Ass'y**

(1) Unhook the Cylinder/Head Amp F.P.C. while lifting up the Cylinder Ass'y slightly and remove it from the Hole A.

Reassembly Note:

1. Use extreme care when replacing the Cylinder Ass'y. Do not touch the Video Heads during servicing.
2. **Installation of the Cylinder Ass'y**

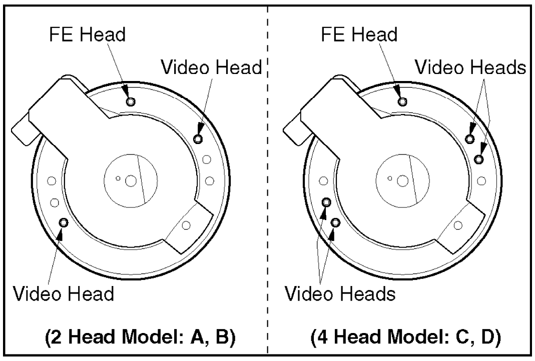
(1) Insert the Cylinder/Head Amp F.P.C. to Hole A first.
(2) Install the Cylinder Ass'y so that 2 Holes on the Lower Cylinder Unit surface fit over the 2 Guide Pins on the Chassis. Then, tighten 3 Screws (S-1).
(3) Hook the Cylinder/Head Amp F.P.C. as shown.


Hooking Portion
Mechanism Support Angle
Hole A
Hooking Portion
Cylinder/Head Amp F.P.C.
Bottom View

3. **Adjustment of the Cylinder Ass'y**

(1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

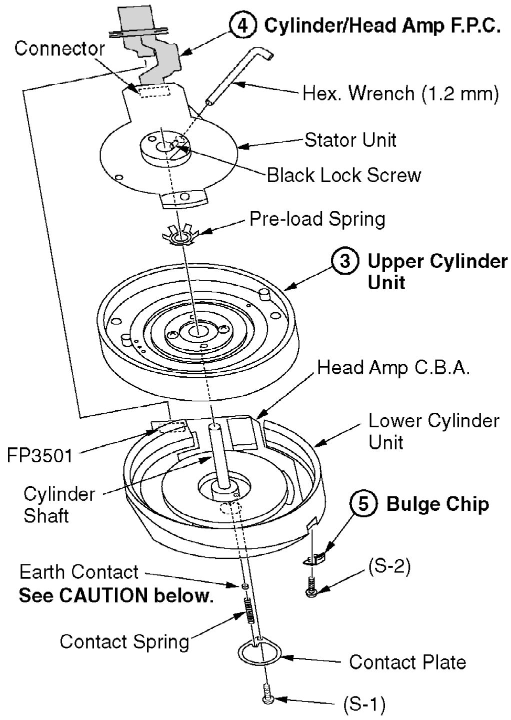
Fig. DM4-1-2


FE Head
Video Head
Video Head
FE Head
Video Heads
Video Heads
(2 Head Model: A, B)
(4 Head Model: C, D)

6.2.6. Upper Cylinder Unit, Cylinder/Head Amp F.P.C., Bugle Chip

Fig. DM4-2

(Cylinder Ass'y)


④ Cylinder/Head Amp F.P.C.
Connector
Hex. Wrench (1.2 mm)
Stator Unit
Black Lock Screw
Pre-load Spring
③ Upper Cylinder Unit
Head Amp C.B.A.
Lower Cylinder Unit
FP3501
Cylinder Shaft
⑤ Bulge Chip
(S-2)
Earth Contact
See CAUTION below.
Contact Spring
Contact Plate
(S-1)

Note:

1. Use extreme care when removing the Upper Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Removal of the Upper Cylinder Unit**

(1) Disconnect the Connector FP3501 on the Head Amp C.B.A.
(2) Remove Screw (S-1), then remove the Contact Plate, Contact Spring, and Earth Contact in the order.

CAUTION:
Do not remove the Upper Cylinder Unit before removing the Earth Contact.

(3) Loosen the Black Lock Screw on the Stator Unit with a Hex. wrench (1.2 mm) and pull up on the Stator Unit.
(4) Remove the Pre-load Spring.
(5) Then, remove the Upper Cylinder Unit.

Fig. DM4-3

Reassembly Note:

1. Use extreme care when replacing the Upper Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Installation of the Upper Cylinder Unit**

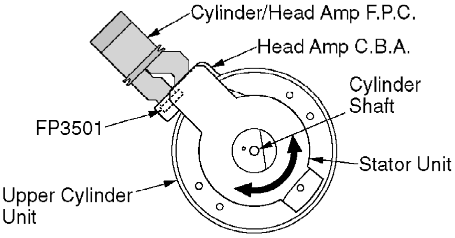
CAUTION:

(1) **Confirm that the Earth Contact is not in the Lower Cylinder Unit.**

(2) Install the Upper Cylinder Unit to the Lower Cylinder Unit.

(3) Confirm the position of the Pre-load Spring, and install it to the Cylinder Shaft.

(4) Install the Stator Unit to the Cylinder Shaft. Rotate the Stator Unit to be positioned as shown.

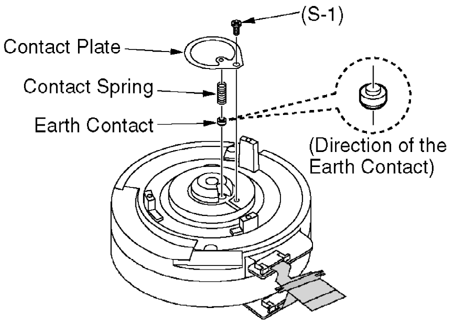

Cylinder/Head Amp F.P.C.
Head Amp C.B.A.
Cylinder Shaft
FP3501
Stator Unit
Upper Cylinder Unit

Top View

(5) Connect the Cylinder/Head Amp F.P.C. with the Connector FP3501 on the Head Amp C.B.A.

(6) Tighten the Black Lock Screw (700 g/cm) on the Stator Unit with a Hex. wrench (1.2 mm) while lightly grasping (700 g±300 g) the top and bottom of the Cylinder Ass'y.

(7) Install the Earth Contact, Contact Spring, and Contact Plate in the order. Then, tighten Screw (S-1).


(S-1)
Contact Plate
Contact Spring
Earth Contact
(Direction of the Earth Contact)

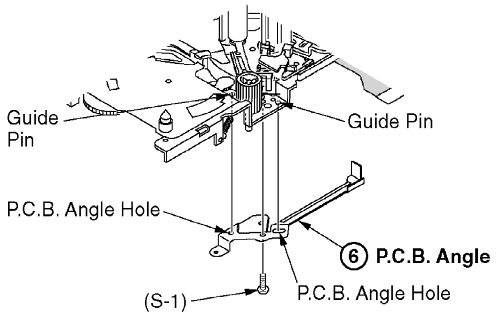
Bottom View

3. **Adjustment of the Upper Cylinder Unit**

(1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

6.2.7. P.C.B. Angle

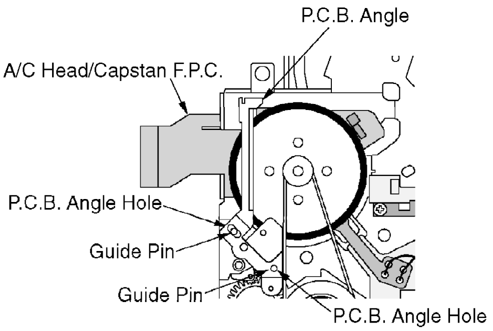
Fig. DM5


Guide Pin
Guide Pin
P.C.B. Angle Hole
⑥ P.C.B. Angle
(S-1)
P.C.B. Angle Hole

Reassembly Note:

1. **Installation of the P.C.B. Angle**

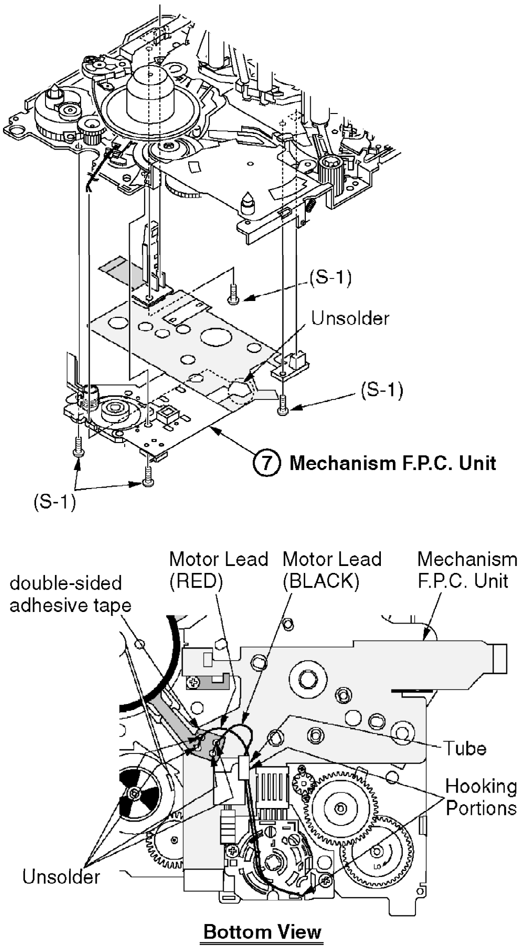
(1) Install the P.C.B. Angle so that the 2 P.C.B. Angle Holes fit over the 2 Guide Pins on the Chassis.
Work carefully so as not to damage the A/C Head/Capstan F.P.C.


P.C.B. Angle
A/C Head/Capstan F.P.C.
P.C.B. Angle Hole
Guide Pin
Guide Pin
P.C.B. Angle Hole

Bottom View

6.2.8. Mechanism F.P.C Unit

Fig. DM6-1


(S-1)
Unsolder
(S-1)
⑦ Mechanism F.P.C. Unit
(S-1)
double-sided adhesive tape
Motor Lead (RED)
Motor Lead (BLACK)
Mechanism F.P.C. Unit
Tube
Hooking Portions
Unsolder
Bottom View

Note:
Unsolder under 320°C within 3 seconds.

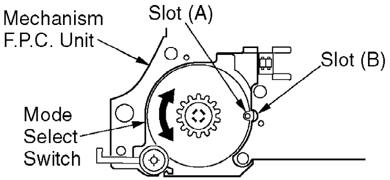
Fig. DM6-2

Reassembly Note:

1. **Gear Alignment**
   - **The Mode Select Switch and the Main Cam Unit**

(1) Place the Mechanism in the **STOP Position** by rotating the Gear of Reduction Gear Unit.

(2) Before installing the Mechanism F.P.C. Unit, rotate the Mode Select Switch of Mechanism F.P.C. Unit so that Slot (A) is aligned with Slot (B).


Mechanism
F.P.C. Unit
Slot (A)
Slot (B)
Mode
Select
Switch

Top View

2. **Installation of the Mechanism F.P.C. Unit**

(1) Install the Mechanism F.P.C. Unit to the bottom of the Chassis. Then, tighten 4 Screws (S-1).

(2) Hook the Motor Leads to Hooking Portion-1.

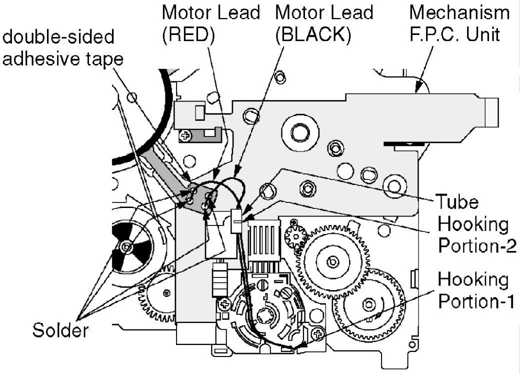
(3) Pass the tube through the Motor Leads.

(4) Solder the Motor Leads as shown.

Note: Solder under 320 °C within 3 seconds.

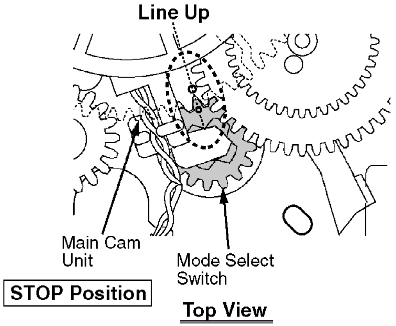
(5) Hook the Motor Leads and the tube to Hooking Portion-2 together.

(6) Confirm that the Motor Leads are set correctly on the Mechanism F.P.C. Unit as shown.


Motor Lead
(RED)
Motor Lead
(BLACK)
Mechanism
F.P.C. Unit
double-sided
adhesive tape
Tube
Hooking
Portion-2
Hooking
Portion-1
Solder

Bottom View

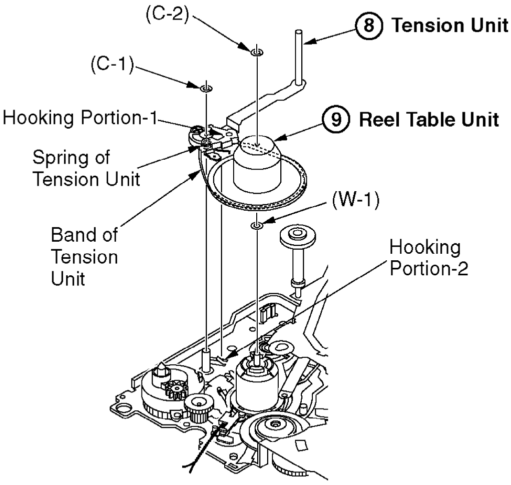
(7) Confirm that the Mode Select Switch is in STOP Position from the Top side.


Line Up
Main Cam
Unit
Mode Select
Switch
STOP Position

Top View

6.2.9. Tension Unit, Reel Table Unit

Fig. DM7-1


(C-2)
⑧ Tension Unit
(C-1)
Hooking Portion-1
⑨ Reel Table Unit
Spring of Tension Unit
(W-1)
Band of Tension Unit
Hooking Portion-2

1. **Removal of the Tension Unit and the Reel Table Unit**

(1) Place the Mechanism in the **Fully-loaded Position**.
(2) Remove Cut Washers (C-1), and (C-2).
(3) Then, remove both the Tension Unit and the Reel Table Unit.

Fig. DM7-2

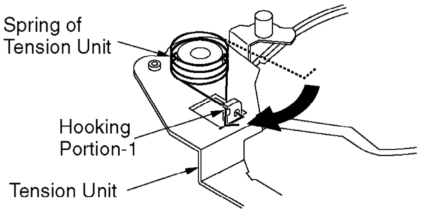
Reassembly Note:

1. **Installation of the Reel Table Unit and the Tension Unit**

(1) Before installing the Reel Table Unit and the Tension Unit, place the Mechanism in the **Fully-loaded Position** by rotating the Gear of Reduction Gear Unit.

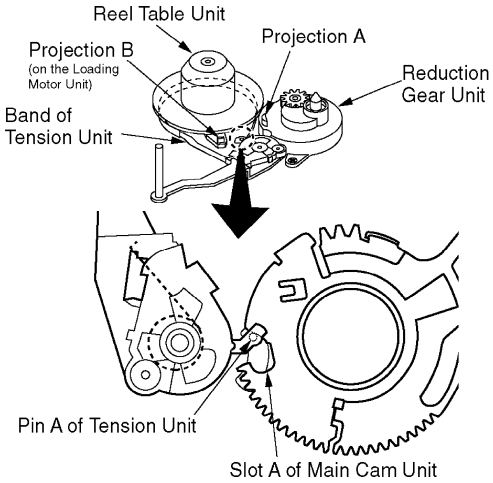
(2) Install Washer (W-1) onto the Loading Motor Unit first.

(3) Hook the Spring of Tension Unit to the Tension Unit as shown.


Spring of Tension Unit
Hooking Portion-1
Tension Unit

(4) Hook the Band of Tension Unit to the groove of Reel Table Unit.

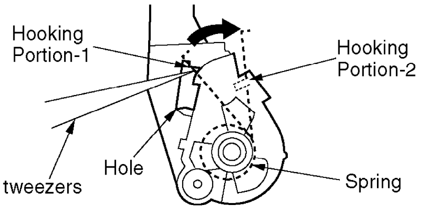
(5) Install both the Reel Table Unit and Tension Unit to the Chassis so that the Pin A of Tension Unit is set into Slot A of the Main Cam Unit. Confirm that the Band of Tension Unit keeps off Projection A and B.


Reel Table Unit
Projection B
(on the Loading Motor Unit)
Projection A
Reduction Gear Unit
Band of Tension Unit
Pin A of Tension Unit
Slot A of Main Cam Unit

Fully-loaded (Play) Position

Top View

(5) Unhook the Spring of Tension Unit from Hooking Portion-1 with tweezers etc. inserted through Hole to let it hook to Hooking Portion-2 on the chassis.

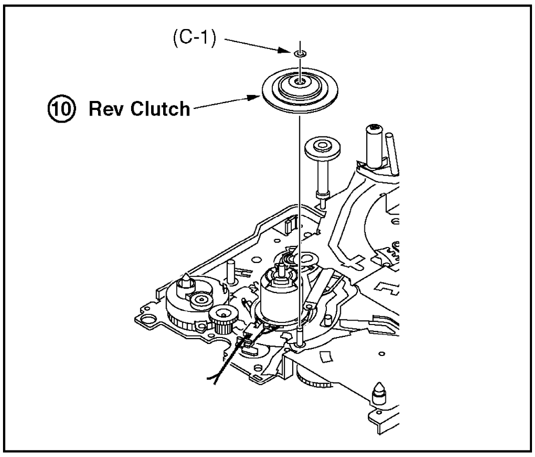

Hooking Portion-1
Hooking Portion-2
Hole
tweezers
Spring

Top View

(6) Install Cut Washer (C-2), and (C-1).

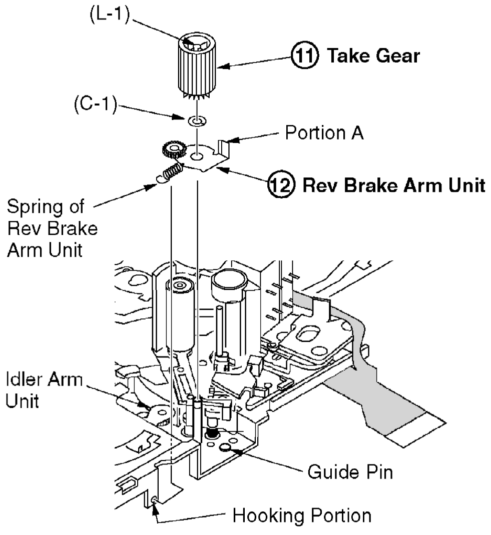
6.2.10. Rev Clutch

Fig. DM8


(C-1)
⑩ Rev Clutch

6.2.11. Take Gear, Rev Brake Arm Unit

Fig. DM9-1


(L-1)
⑪ Take Gear
(C-1)
Portion A
⑫ Rev Brake Arm Unit
Spring of Rev Brake Arm Unit
Idler Arm Unit
Guide Pin
Hooking Portion

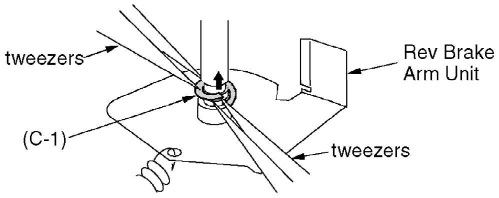
Note:

1. **Removal of the Rev Brake Arm Unit**

(1) Before removing, move the Idler Arm Unit aside.

(2) Remove Cut Washer (C-1) with tweezers etc.

Tips on removal of the Cut Washer (C-1):
Push up one side while pushing the other side of Cut Washer.


tweezers
Rev Brake Arm Unit
(C-1)
tweezers

(3) Remove the Rev Brake Arm Unit after unhooking the Spring of Rev Brake Arm Unit.

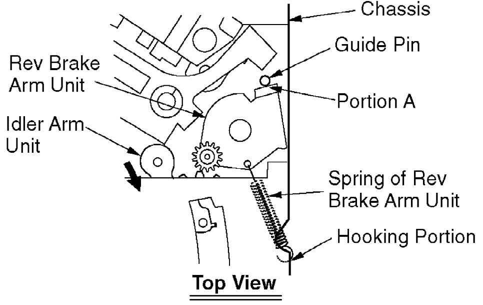
Fig. DM9-2

Reassembly Note:

1. **Installation of the Rev Brake Arm Unit**

(1) Before installing the Rev Brake Arm Unit, move the Idler Arm Unit aside as indicated by the arrow.

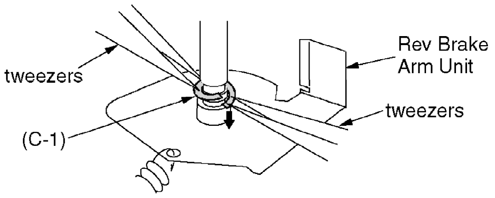
(2) Hook the Spring of Rev Brake Arm Unit to the Hooking Portion. After hooking the Spring, confirm that Portion A of the Rev Brake Arm Unit does not pass over the Guide Pin on chassis as shown.


Chassis
Guide Pin
Rev Brake Arm Unit
Portion A
Idler Arm Unit
Spring of Rev Brake Arm Unit
Hooking Portion
Top View

(3) Install Cut Washer (C-1) with tweezers.

Tips on installation of the Cut Washer (C-1):

Push down one side while pushing the other side of Cut Washer.


tweezers
Rev Brake Arm Unit
tweezers
(C-1)

(4) After installing, confirm that Cut Washer (C-1) can be rotated.

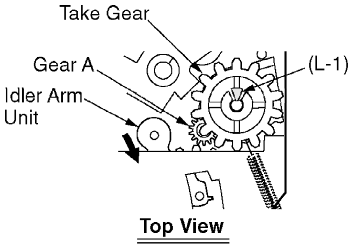
2. **Installation of the Take Gear**

(1) Before installing the Take Gear, move the Idler Arm Unit aside as indicated by the arrow.

(2) Install the Take Gear while rotating so it engages with Gear A so as not to cause damage.

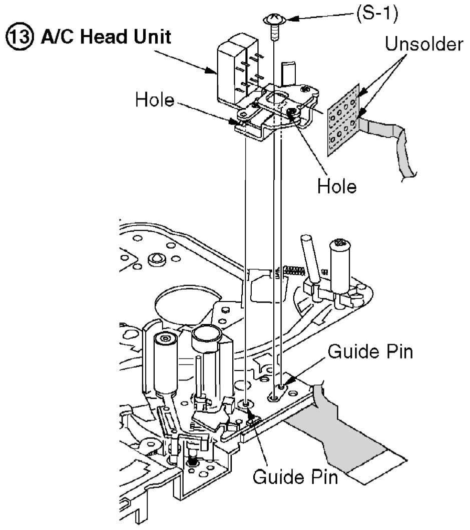
Then, confirm that Locking Tab (L-1) is set.

Note: Use extreme care when installing the Take Gear. If Locking Tab (L-1) is broken, install a new Take Gear.


Take Gear
Gear A
(L-1)
Idler Arm Unit
Top View

6.2.12. A/C Head Unit

Fig. DM10


⑬ A/C Head Unit
(S-1)
Unsolder
Hole
Hole
Guide Pin
Guide Pin

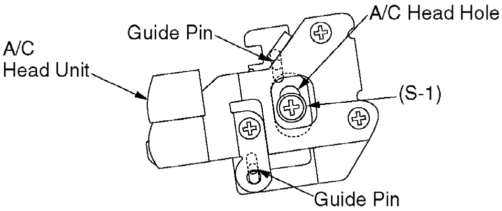
Note:
Unsolder under 320°C within 3 seconds.

Reassembly Note:

1. **Installation of the A/C Head Unit**

(1) Install A/C Head Unit so that 2 Guide Pins are in holes on the A/C Head Unit.

(2) Tighten Screw (S-1) (1.0 ~ 1.3 kgf•cm) in the approximate center of the hole.


A/C Head Hole
Guide Pin
A/C
Head Unit
(S-1)
Guide Pin

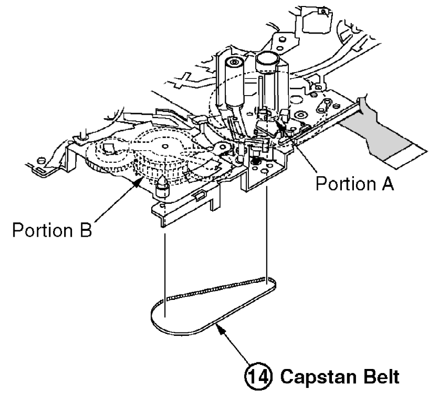
Top View

2. **Adjustment of the A/C Head Unit**

(1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

6.2.13. Capstan Belt

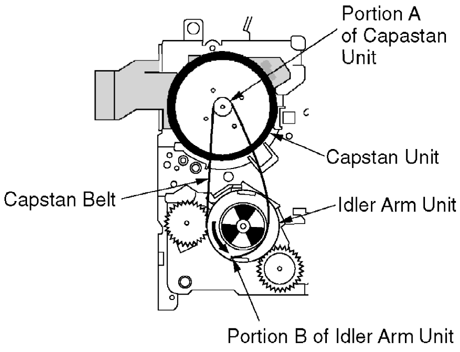
Fig. DM11


Portion A
Portion B
⑭ Capstan Belt

Reassembly Note:

1. **Tips on Installation of the Capstan Belt**

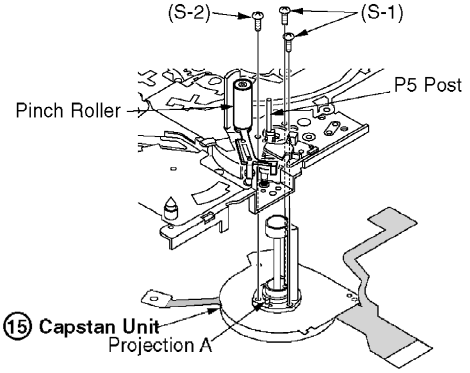
(1) Hook the Capstan Belt to Portion A of Capstan Unit at first as shown.
(2) Hook the Capstan Belt to Portion B of Idler Arm Unit.
(3) Rotate the Idler Arm Unit as indicated by the arrow (counterclockwise) and set it completely.

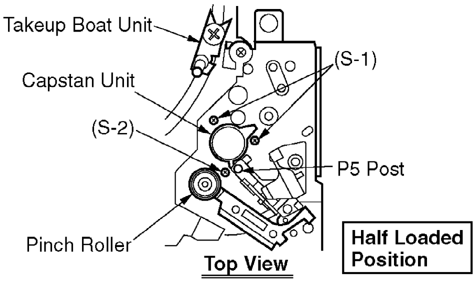

Portion A
of Capastan
Unit
Capstan Unit
Capstan Belt
Idler Arm Unit
Portion B of Idler Arm Unit

Bottom View

6.2.14. Capstan Unit

Fig. DM12


(S-2)
(S-1)
Pinch Roller
P5 Post
⑮ Capstan Unit
Projection A


Takeup Boat Unit
Capstan Unit
(S-1)
(S-2)
P5 Post
Pinch Roller
Top View
Half Loaded Position

CAUTION:
Do not touch the P5 Post or the Pinch Roller.

1. **Removal of the Capstan Unit**

(1) To remove, put the mechanism in the **half loaded position** to gain access to Screw (S-2) as shown by rotating the Gear of Reduction Gear Unit. Then, remove Screw (S-2).

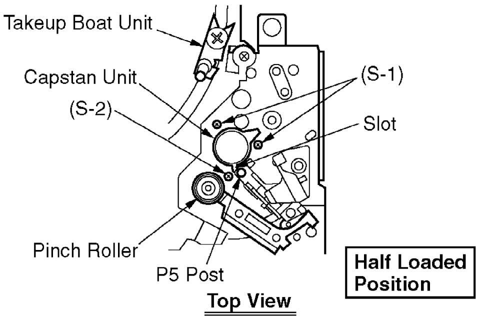
Reassembly Note:

1. Since the Capstan Unit has already been adjusted at the factory, do not try to adjust the FG Head. The Capstan Unit is supplied as a complete assembly as a replacement part.
2. **Installation of the Capstan Unit**

(1) Before installing the Capstan Unit, put the mechanism in the **half loaded position** to gain access to Screw (S-2) for installing by rotating the Gear of Reduction Gear Unit.

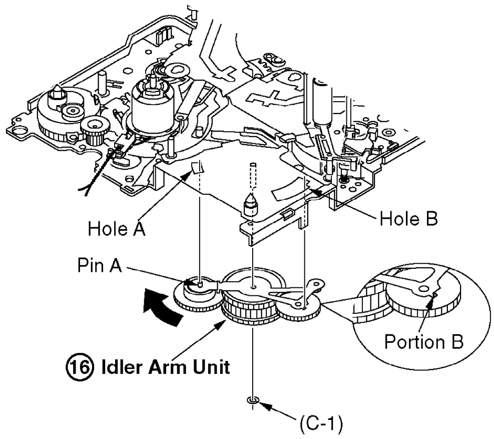
(2) Install the Capstan Unit to the Chassis so that Projection A fit in the Slot on the Chassis.

(3) Tighten 2 Screws (S-1). Then, tighten Screw (S-2).


Takeup Boat Unit
Capstan Unit
(S-2)
(S-1)
Slot
Pinch Roller
P5 Post
Top View
Half Loaded Position

6.2.15. Idle Arm Unit

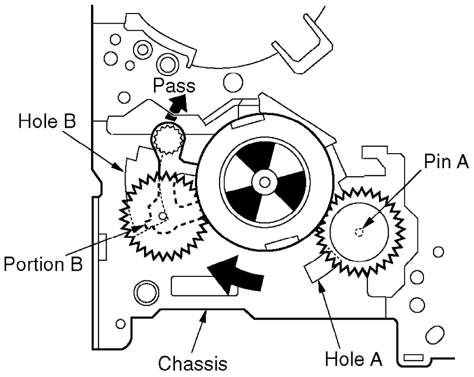
Fig. DM13


Hole A
Hole B
Pin A
Portion B
⑯ Idler Arm Unit
(C-1)

1. **Removal of the Idler Arm Unit**
(1) To remove the Idler Arm Unit, pull the Idler Arm Unit slightly from the Chassis to release Pin A from Hole A. Then, remove the Idler Arm Unit while turning as indicated by the arrow.

Reassembly Note:

1. **Installation of the Idler Arm Unit**
(1) Set the Idler Arm Unit so that Portion B is in Hole B as shown.
(2) Turn the Idler Arm Unit slightly as indicated by arrow to set Pin A in Hole A.

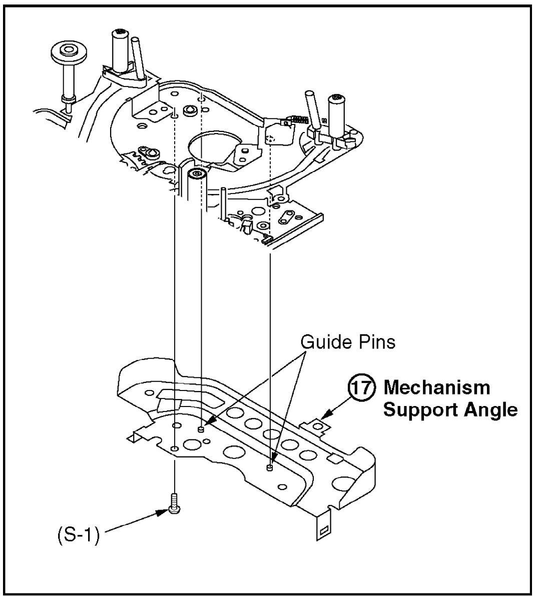

Pass
Hole B
Pin A
Portion B
Chassis
Hole A

Bottom View

(3) Install Cut Washer (C-1).

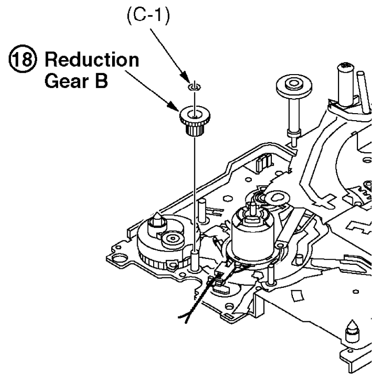
6.2.16. Mechanism Support Angle

Fig. DM14


Guide Pins
⑰ Mechanism Support Angle
(S-1)

6.2.17. Reduction Gear B

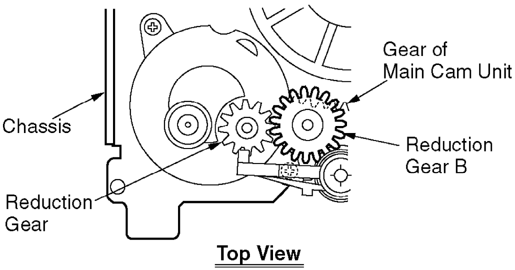
Fig. DM15


(C-1)
⑱ Reduction Gear B

Reassembly Note:

1. **Installation of the Reduction Gear B**

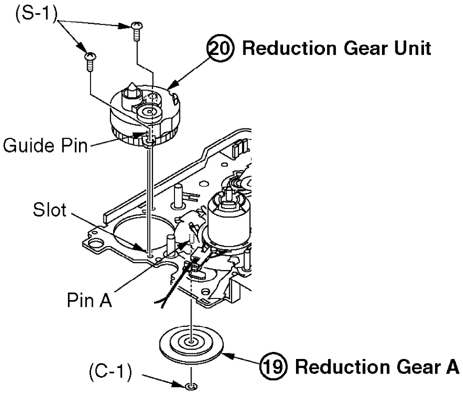
(1) Install the Reduction Gear B while rotating so it engages with the Gear of Main Cam Unit as shown.


Gear of
Main Cam Unit
Chassis
Reduction
Gear B
Reduction
Gear
Top View

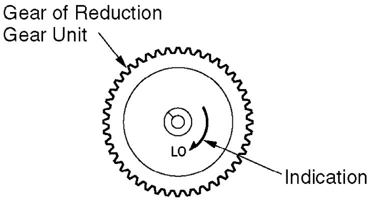
(2) Confirm that the Mechanism can be loaded or unloaded by rotating the Gear of Reduction Gear Unit.

6.2.18. Reduction Gear A, Reduction Gear Unit

Fig. DM16


(S-1)
⑳ Reduction Gear Unit
Guide Pin
Slot
Pin A
(C-1)
⑲ Reduction Gear A

Indication on Gear of Reduction Gear Unit
The arrow indicated on the Gear of Reduction Gear Unit shows the direction to load.


Gear of Reduction
Gear Unit
LO
Indication

Bottom View

Reassembly Note:

1. **Installation of the Reduction Gear Unit**

(1) Install the Reduction Gear Unit so that Guide Pin fits in the Slot on the Chassis.
Then, tighten 2 Screws (S-1).

6.2.19. Pinch Arm Unit, Opener, P5 Arm Unit

Fig. DM17-1

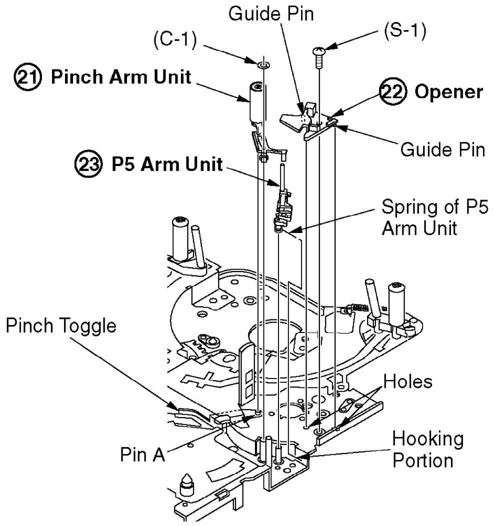

Guide Pin
(C-1)
(S-1)
㉑ Pinch Arm Unit
㉒ Opener
Guide Pin
㉓ P5 Arm Unit
Spring of P5 Arm Unit
Pinch Toggle
Holes
Pin A
Hooking Portion

Fig. DM17-2

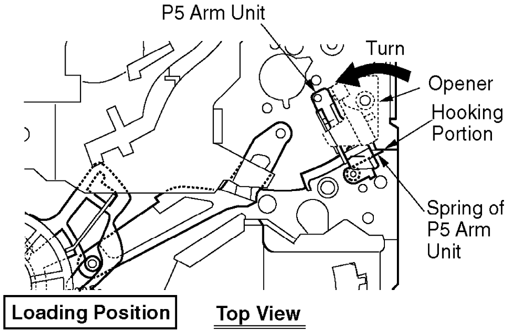
Reassembly Note:

1. **Installation of the P5 Arm Unit and the Opener**

(1) Before installing the P5 Arm Unit, put the Mechanism in the **Loading Position** (S and T Posts are located at the end of guide slots) to make installing the Pinch Arm Unit easier. (See 2. **Installation of the Pinch Arm Unit**.)

(2) Install the P5 Arm Unit while hooking the Spring to Hooking Portion.

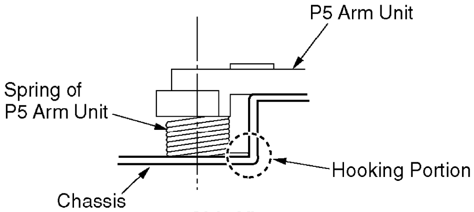
(3) Turn the P5 Arm Unit as indicated by the arrow while lifting up the P5 Arm Unit slightly from the Chassis.


P5 Arm Unit
Turn
Opener
Hooking Portion
Spring of P5 Arm Unit
Loading Position

Top View

(4) Install the Opener so that Guide Pins on the Opener fit in Holes on the Chassis. Then, tighten Screw (S-1).

(5) Confirm that the P5 Arm Spring is hooked on the bottom of chassis.

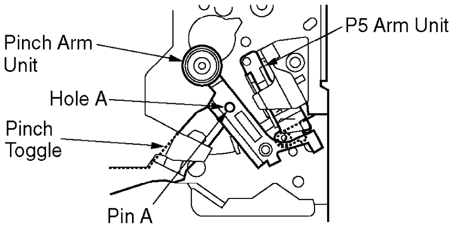

P5 Arm Unit
Spring of P5 Arm Unit
Hooking Portion
Chassis

Side View

2. **Installation of the Pinch Arm Unit**

(1) Install the Pinch Arm Unit.

(2) Fit Hole A on the Pinch Arm Unit over Pin A on the Pinch Toggle as shown.


Pinch Arm Unit
Hole A
Pinch Toggle
Pin A
P5 Arm Unit

Top View

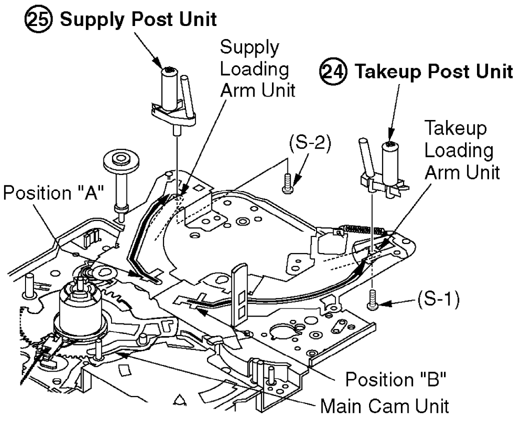
(3) Install the Cut Washer (C-1).

3. **Adjustment of the P5 Arm Unit and the Pinch Arm Unit**

(1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

6.2.20. Takeup Post Unit, Supply Post Unit

Fig. DM18-1


㉕ Supply Post Unit
Supply Loading Arm Unit
㉔ Takeup Post Unit
Takeup Loading Arm Unit
(S-2)
Position "A"
(S-1)
Position "B"
Main Cam Unit

Note:

1. **Removal of the Supply Post Unit and the Takeup Post Unit**

(1) Load the Mechanism to the **Loading Position** to gain access to Screw (S-1) and (S-2) for removal by rotating the Main Cam Unit.
(2) Then, remove Screw (S-1) and (S-2).
(3) Put the arm of the Supply Loading Arm Unit and the Takeup Loading Unit aside.
(4) Slide back the Supply Post Unit and the Takeup Post Unit to Position "A" and "B" and remove.

Fig. DM18-2

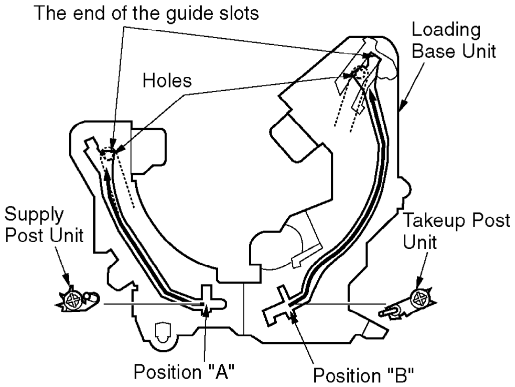
Reassembly Note:

1. **Installation of the Supply Post Unit and the Takeup Post Unit**

(1) Confirm that the end of the arm (the threaded hole) of Supply Loading Arm Unit and the end of the arm (the threaded hole) of Takeup Loading Arm Unit are in the end of the guide slots.

(2) Install the Supply Post Unit and the Takeup Post Unit into Position "A" and "B" while being careful of the direction of the Supply Post Unit and the Takeup Post Unit.

(3) Slide the Supply Post Unit and the Takeup Post Unit to the end of guide slots as shown.



Top View

(4) Align the Hole of the Supply Loading Arm Unit with the Threaded Hole of the Supply Post Unit. Do the Same with the Takeup Post Unit.

(5) Tighten Screw (S-1) and (S-2).

Caution:

Be careful of the following when tightening Screw (S-1) and (S-2).

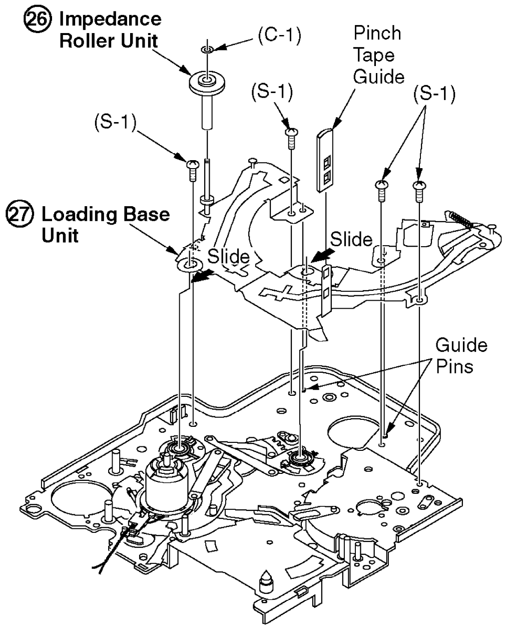
1. Be sure to tighten screws straight.
2. Do not over tighten screws.

2. **Adjustment of the Supply Boat Unit and Takeup Boat Unit**

(1) After replacing, perform the "Tape Interchangeability Adjustment" procedures.

6.2.21. Impedance Roller Unit, Loading Base Unit

Fig. DM19-1



㉖ Impedance Roller Unit
(C-1)
Pinch Tape Guide
(S-1)
(S-1)
(S-1)
㉗ Loading Base Unit
Slide
Slide
Guide Pins

Note:

1. Do not apply excessive pressure to the Impedance Roller Unit.
2. **Removal of the Loading Base Unit**
   Do not apply excessive pressure to the Loading Base Unit so as not to bend.

(1) When removing the Loading Base Unit, remove 4 Screws (S-1).

(2) Release 2 Guide Pins while lifting up the Loading Base Unit slightly. Then, remove the Loading Base Unit after sliding as indicated by the arrow.

Fig. DM19-2

Reassembly Note:

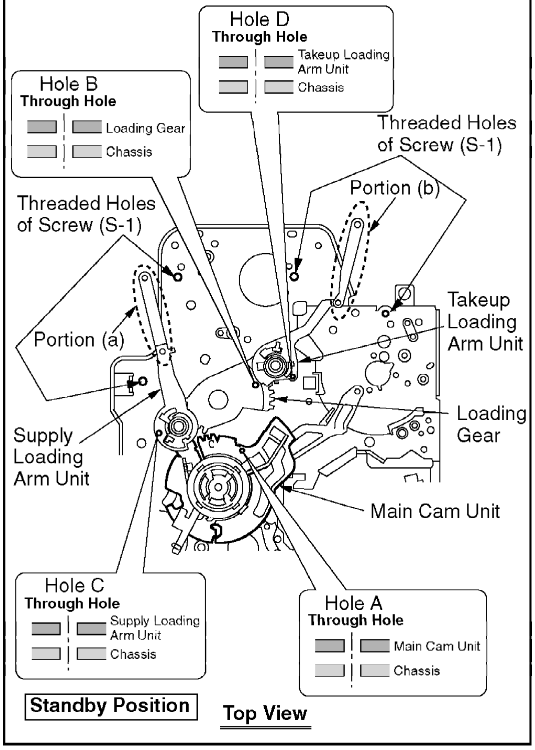
1. **Installation of the Loading Base Unit**

(1) Before installing the Loading Base Unit, rotate the Main Cam Unit clockwise (to change the gear position from STOP position (Fig. DM20) to Standby position (Fig. DM19-2)) so that Holes A, B, C, and D are Through Holes with holes on the chassis.

(2) Confirm that Portion (a) of Supply Loading Arm Unit and (b) of Takeup Loading Arm Unit are in the position keeping off Thread Holes for 4 Screws (S-1) as shown. Because the Threaded Holes of the S and T Post are aligned with Hole of the S and T Loading Arm Unit.

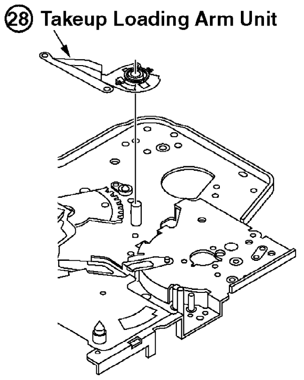
(3) Install the Loading Base Unit while sliding.

(4) Tighten 4 Screws (S-1).


Hole D
Through Hole
Takeup Loading Arm Unit
Chassis
Hole B
Through Hole
Loading Gear
Chassis
Threaded Holes of Screw (S-1)
Portion (b)
Threaded Holes of Screw (S-1)
Takeup Loading Arm Unit
Portion (a)
Loading Gear
Supply Loading Arm Unit
Main Cam Unit
Hole C
Through Hole
Supply Loading Arm Unit
Chassis
Hole A
Through Hole
Main Cam Unit
Chassis
Standby Position
Top View

6.2.22. Takeup Loading Arm Unit

Fig. DM20

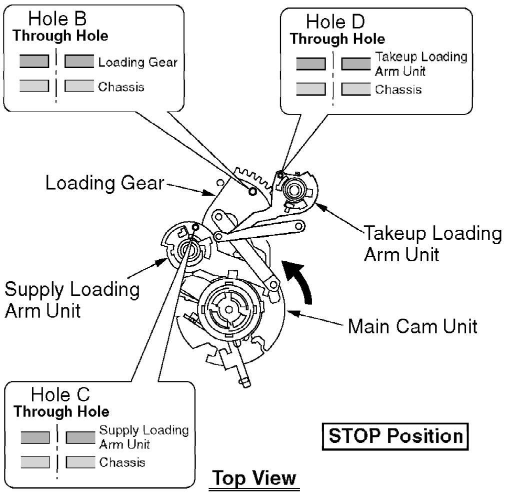

㉘ Takeup Loading Arm Unit

Reassembly Note:

1. **Gear Alignment**
   - **The Takeup Loading Arm Unit and the Loading Gear**

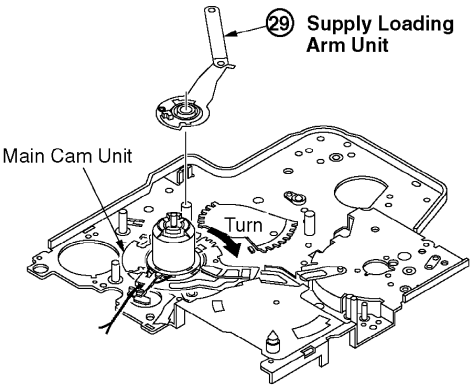
(1) Rotate the Main Cam Unit counterclockwise (to change the gear position from Fully loaded position (Fig. DM21-2) to STOP position (Fig. DM20)) so that Hole C on the Supply Loading Arm Unit and Hole B on the Loading Gear are Through Holes with holes on the chassis.

(2) Install the Takeup Loading Arm Unit while aligning Hole D with the hole on the chassis (Through Hole) as shown.


Hole B
Through Hole
Loading Gear
Chassis
Hole D
Through Hole
Takeup Loading Arm Unit
Chassis
Loading Gear
Takeup Loading Arm Unit
Supply Loading Arm Unit
Main Cam Unit
Hole C
Through Hole
Supply Loading Arm Unit
Chassis
STOP Position
Top View

6.2.23. Supply Loading Arm Unit

Fig. DM21-1


㉙ Supply Loading Arm Unit
Main Cam Unit
Turn

1. **Removal of the Supply Loading Arm Unit**

(1) Remove the Supply Loading Arm Unit after rotating the Main Cam Unit as much as it can.

Fig. DM21-2

Reassembly Note:

1. **Gear Alignments**
   - **The Supply Loading Arm Unit and the Loading Gear**
   - **The Supply Loading Arm Unit and the Main Cam Unit**

(1) Confirm that Hole A on the Main Cam Unit is a Through Hole with a hole on the chassis by rotating the Main Cam Unit clockwise as much as possible. Also, make sure the Loading Gear makes contact with contact point.

(2) Set the Supply Loading Arm Unit so that the last tooth of its lower gear is just outside the last tooth of the Loading Gear as shown.

(3) Turn the Main Cam Unit counterclockwise first ①, then turn Supply Loading Arm Unit clockwise slightly ② so that the last tooth on upper gear of Supply Loading Arm Unit is just outside tooth (a) of Main Cam Unit.

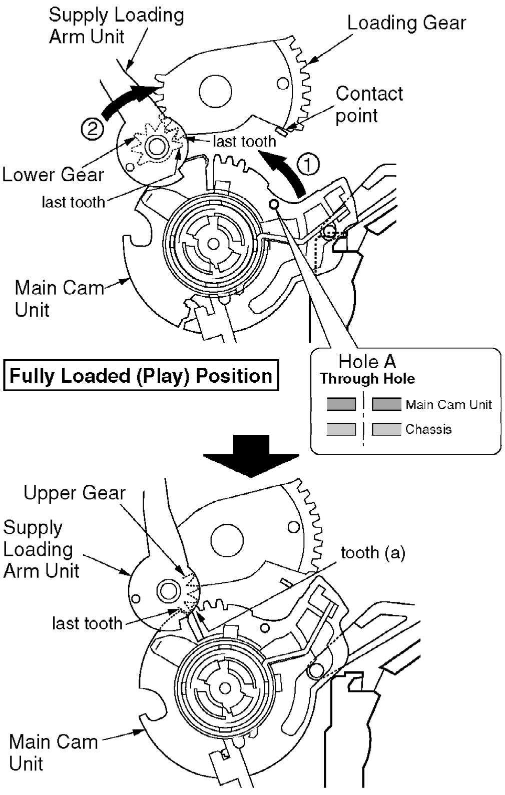
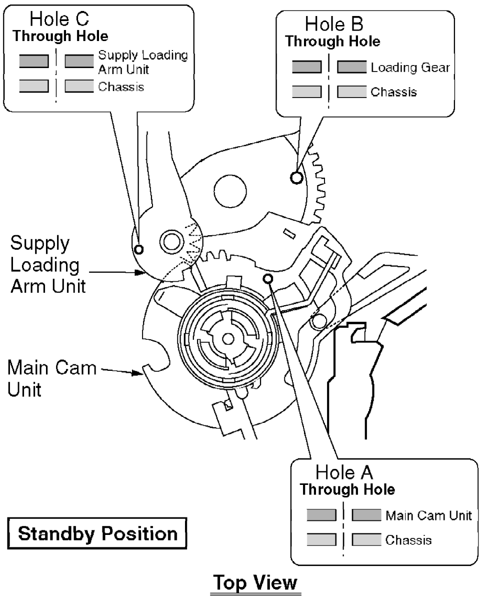

Supply Loading Arm Unit
Loading Gear
Contact point
②
last tooth
①
Lower Gear
last tooth
Main Cam Unit
Fully Loaded (Play) Position
Hole A
Through Hole
Main Cam Unit
Chassis
Upper Gear
Supply Loading Arm Unit
tooth (a)
last tooth
Main Cam Unit
Top View

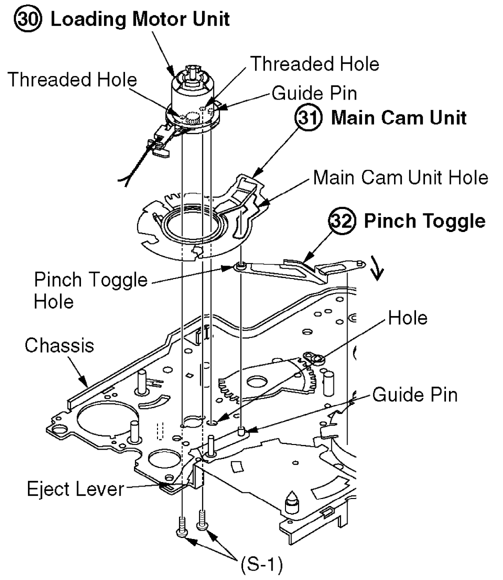
Fig. DM21-3

(4) Confirm that Hole A, B, and C are Through Holes by rotating the Main Cam Unit.


Hole C
Through Hole
Supply Loading Arm Unit
Chassis
Hole B
Through Hole
Loading Gear
Chassis
Supply Loading Arm Unit
Main Cam Unit
Hole A
Through Hole
Main Cam Unit
Chassis
Standby Position
Top View

6.2.24. Loading Motor Unit, Main Cam Unit, Pinch Toggle

Fig. DM22


㉚ Loading Motor Unit
Threaded Hole
Threaded Hole
Guide Pin
㉛ Main Cam Unit
Main Cam Unit Hole
㉜ Pinch Toggle
Pinch Toggle Hole
Hole
Chassis
Guide Pin
Eject Lever
(S-1)

Reassembly Note:

1. Do not pull the Eject Lever upward so as not to bend it.
2. **Installation of the Pinch Toggle and the Main Cam Unit**

(1) Install the Pinch Toggle so that the Pinch Toggle Hole fit over the Guide Pin.

(2) Install the Main Cam Unit so that Guide Pin fits in the Main Cam Unit Hole.

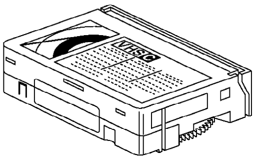
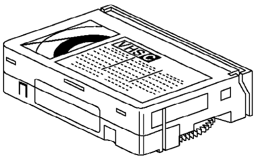
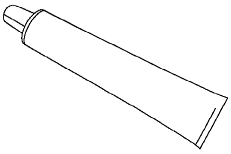
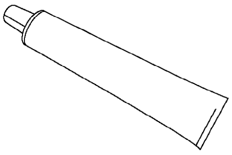
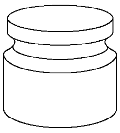
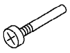
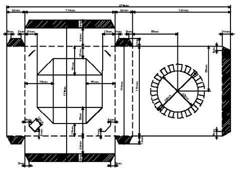
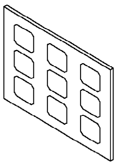
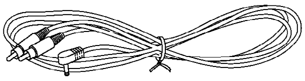
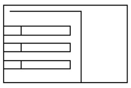
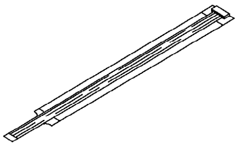
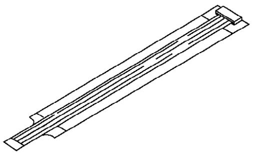
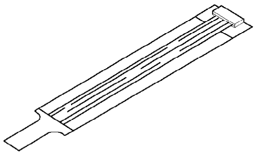
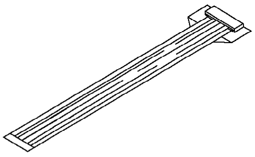
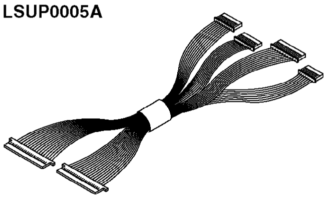
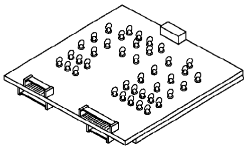
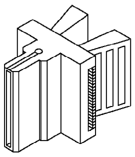
3. **Installation of the Loading Motor Unit**

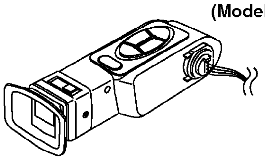
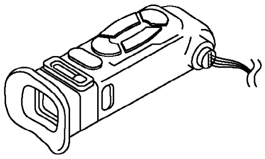
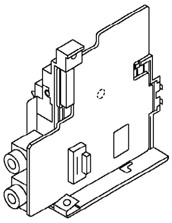
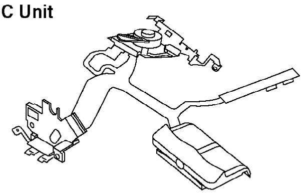
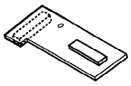
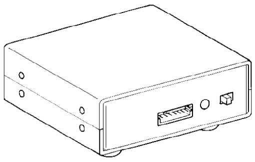
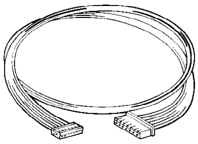
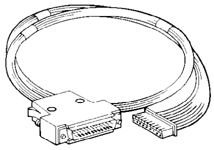
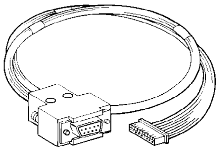
(1) Install the Loading Motor Unit the Guide Pin fits in Hole on chassis.

(2) Tighten 2 Screws (S-1). If the 2 Screws (S-1) can not reach Threaded Holes, push down on the upper side of the Loading Motor Unit to tighten 2 Screws (S-1).

7. ADJUSTMENT PROCEDURES

7.1. SERVICE FIXTURES& TOOLS

VHS-C Alignment Tape VFMS0004H6C 	VHS-C Alignment Tape VFMW0001C 	Molytone Grease VFK1024 
Grease LSUQ0002 	Grease VFKS0081 	Lock Screw VHDW0125 
A.W.B. Adjustment Fixture VFKW0066 	Color Chip Chart VFKW0116 	Audio Video Cable VJAW0032 
Head Cleaning Stick VFK27 	Extension Cable 12P VUVS0007 	Extension Cable 20P LSUA0020 
Extension Cable 26P LSUA0021 	Extension Cable 28P VUVS0015 	
TP Board Kit TP Adjustment Cable 40P LSUP0005A 	TP Adjustment P.C.B. 40P VFKW0123B 	TP Clip 36P LSUP0005C 

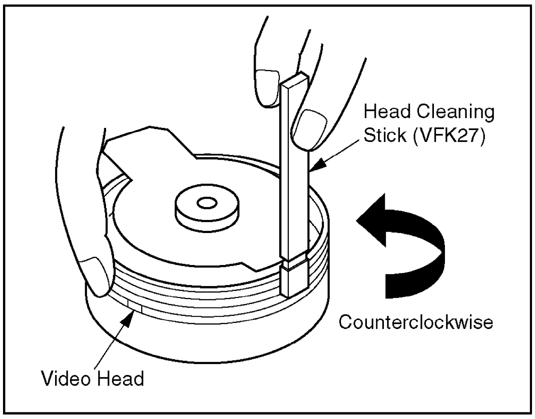
EVF Unit LSYK0232 (Model: A, C, D)  The part number of the monochrome EVF Unit for **Model A, C, D** is different from that of the monochrome EVF Unit (LSYK0232) which is supplied as a representative service fixture.	**Color EVF Unit** LSYK0234 (Model: B)  The part number of the color EVF Unit for **Model B** is different from that of the color EVF Unit (LSYK0234) which is supplied as a representative service fixture.
Battery Catcher Unit LSEQ0551 	**Side L FPC Unit** LSEQ0557 
	Relay C.B.A. LSEP8033A1 
CAAS Kit VFKW1000	
Interface Box **VFKW1000A** 	**Camera Connecting Cable** **VFKW1000B** 
25pin RS-232C Cable **VFKW1000D** 	**9pin RS-232C Cable** **VFKW1000C** 

7.2. MECHANICAL ADJUSTMENT

7.2.1. CLEANING PROCEDURE FOR THE UPPER CYLINDER UNIT

1. **While slowly turning the Upper Cylinder Unit counterclockwise by hand, gently rub the Video Heads with a Head Cleaning Stick (VFK27) moistened with Isopropyl Alcohol 91%.**

Fig. M1



Note:

A. Do not rub vertically or apply excess pressure to the Video Heads.
Do not turn the Upper Cylinder Unit clockwise while cleaning.

B. After cleaning, use a Dry Head Cleaning Stick (VFK27) to remove any Isopropyl Alcohol 91% remaining on the cylinder tape path. Otherwise, tape damage will occur.

7.2.2. ADJUSTMENT PROCEDURES

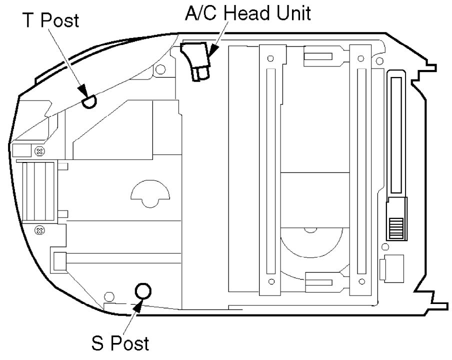
7.2.2.1. TAPE INTERCHANGEABILITY ADJUSTMENT

Before perform these Adjustment/Confirmation procedures, be sure to complete following items.

1. **Connect the TP Board Kit to S301 on the camcorder. Refer to " HOW TO USE TP BOARD KIT" in "SERVICE NOTES."**

Fig. M2-1

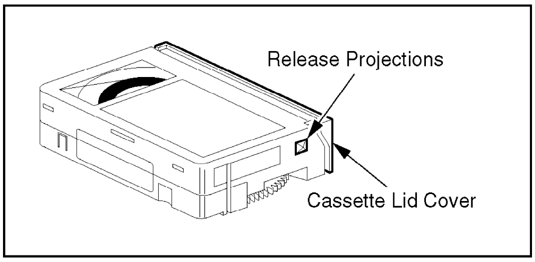
It is possible to perform S Post, T Post, and A/C Head Unit adjustment with only the Cassette Cover removed.



2. **Put the unit into the service mode "I. Tracking Fix" to defeat Auto Tracking. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)" in "SERVICE NOTES."**
3. **Remove the Cassette Lid Cover from the Cassette Tape or the**

Alignment Tape.

Fig. M2-2



Equipment Required:

Dual Trace Oscilloscope
VHS-C Alignment Tape (VFMS0004H6C)
VHS-C Alignment Tape (VFMW0001C)
Screwdriver Set (Purchase Locally)
TP Board Kit
TP Adjustment Cable 40P (LSUP0005A)
TP Adjustment P.C.B. 40P (VFKW0123B)
TP Clip 36P (LSUP0005C)

7.2.2.2. ENVELOPE OUTPUT ADJUSTMENT

The height of the S and T Posts replacement part is preset at the factory.

Purpose:

To achieve a satisfactory picture and secure precise tracking.

Symptom of Misadjustment:

If the envelope is output poorly, much noise will appear in the picture. Then the tracking will lose precision and the playback picture will be distorted by any slight variation of the tracking control circuit.

1. **Put the unit into the service mode "I. Tracking Fix" to defeat Auto Tracking. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)" in "SERVICE NOTES."**
2. **Connect the oscilloscope to Pin 30 (Envelope signal) on the TP Adjustment P.C.B. Use Pin 33 (Head Switch signal) as a trigger.**
3. **Play back the Alignment Tape (VFMS0004H6C).**
4. **Confirm that the RF envelope is flat enough. If not, with Flat Headed (—) Screwdriver, adjust S and T post height so that the envelope waveform becomes as flat as possible (No envelope drop). If the envelope drop appears on the left-half of the**

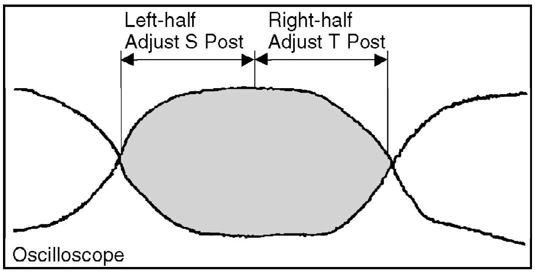
waveform, adjust S post height. If the envelope drop appears on the right-half of the waveform, adjust T post height.

CAUTION:

Do not apply excessive pressure onto the S and T Posts when adjusting S and T post height.

Fig. M3-1

Before Adjustment



After Adjustment

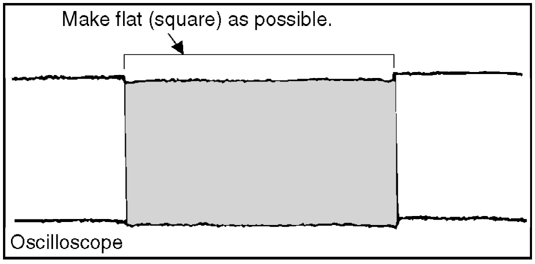
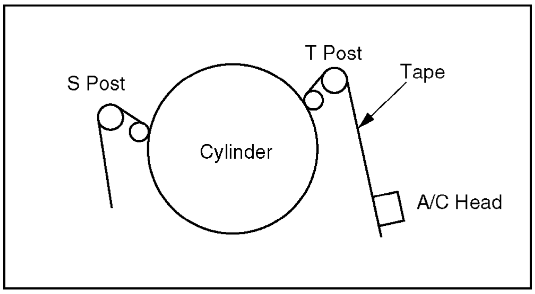


Fig. M3-2



Note:

It will be possible to confirm step 4) after performing the following steps.

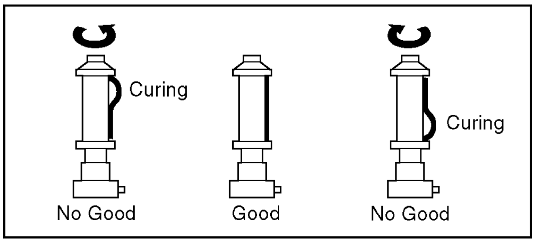
A. Exit the "I. Tracking Fix" mode, then skip the "J. PG Shifter" mode to enter other modes (except these 2). Or, close the service mode.

B. Press the Tracking Control Up or Down button on the camcorder. Make sure that the envelope waveform remains flat. If not, readjust S and/or T post heights.

5. After adjustment, confirm that the tape travels without curing at S and T posts.

If curing is apparent, readjust the height of posts.

Fig. M3-3


Curing
Curing
No Good
Good
No Good

7.2.2.3. A/C HEAD HEIGHT ADJUSTMENT

The height of the A/C Head replacement part is preset at the factory.

Purpose:

To be sure the tape runs properly along the Control Head.

Symptom of Misadjustment:

If the control signal is not properly picked up, Servo Operation can not be achieved.

1. **Connect the oscilloscope to Pin 25 (PB Control signal) on the TP Adjustment P.C.B.**
2. **Play back the Alignment Tape (VFMW0001C)**
3. **Confirm that the Sub Control Signal is 500 mV±200 mV. If not, slightly and equallyadjust Screw A, Screw B, and Screw C on the A /C Head Unit to achieve the sub control signal level of 500 mV±200 mV.**
   (Sub Control Signal level will decrease when rotating screws clockwise, and increase when rotating screws counterclockwise.)

Fig. M4-1

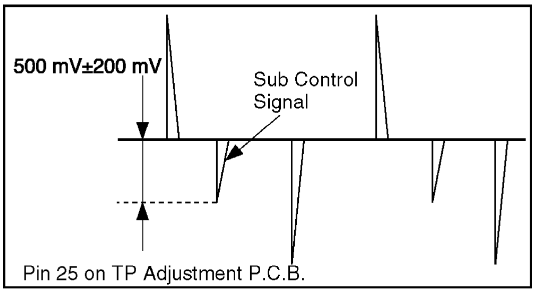
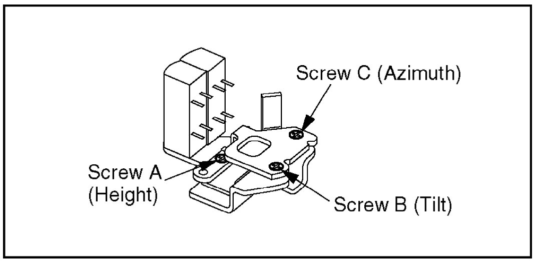

500 mV±200 mV
Sub Control Signal
Pin 25 on TP Adjustment P.C.B.

Fig. M4-2



7.2.2.4. A/C HEAD AZIMUTH ADJUSTMENT

Purpose:

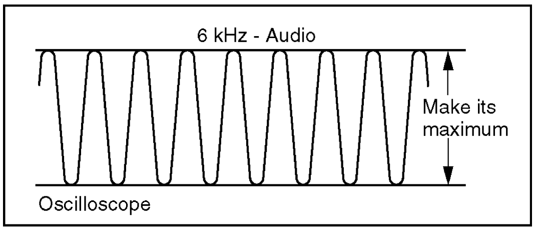
To adjust the position and height of the A/C Head so that it meets the tape tracks properly.

Symptom of Misadjustment:

If the position of the A/C Head is not properly adjusted, the Audio S/N Ratio will be poor.

1. **Connect the Audio/Video Cable on the camcorder.**
2. **Connect the oscilloscope to audio output jack.**
3. **Playback the Alignment Tape (VFMS0004H6C).**
4. **Adjust Screw C (Azimuth) on the A/C Head Unit so that the output level is at maximum.**

Fig. M5



5. **Confirm and readjust the A/C Head height.**
6. **Confirm and readjust Screw C (Azimuth) on the A/C head so that the output audio becomes is maximum.**

7.2.2.5. A/C HEAD HORIZONTAL POSITION ADJUSTMENT

Purpose:

To adjust the Horizontal Position of the A/C Head.

Symptom of Misadjustment:

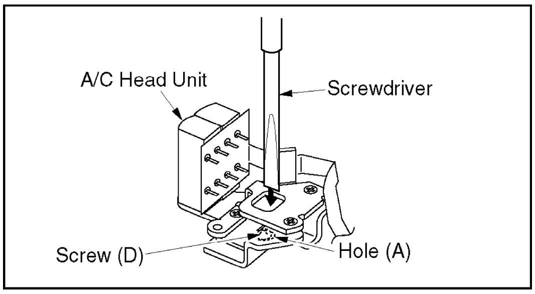
If the Horizontal Position of the A/C Head is not properly adjusted, maximum envelope can not be obtained at the Neutral Position of the Tracking Control Circuit.

1. **Put the unit into the service mode "I. Tracking Fix" to defeat Auto**

Tracking. Refer to "SERVICE MODE SPECIFICATION (SELF-DIAGNOSTIC SYSTEM)" in "SERVICE NOTES."

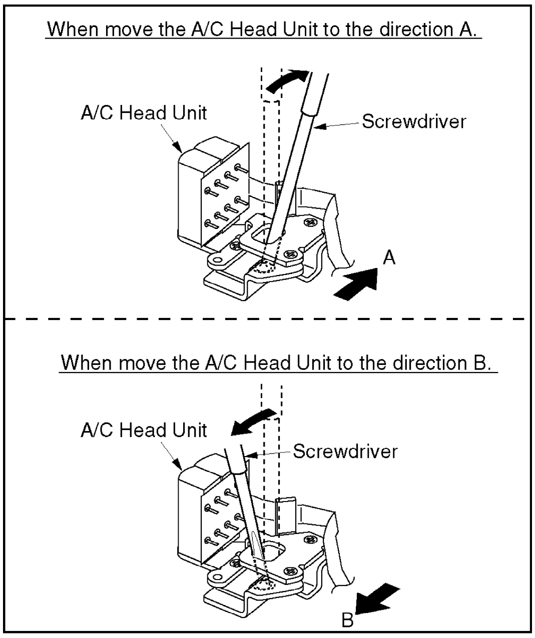
2. **Connect the oscilloscope to Pin 30 (Envelope signal) on the TP Adjustment P.C.B. Use Pin 33 (Head Switch signal) as a trigger.**
3. **Play back the Alignment Tape (VFMS0004H6C).**
4. **Set the Screwdriver into the Hole (A) as shown.**

Fig. M6-1


A/C Head Unit
Screwdriver
Screw (D)
Hole (A)

5. **Slowly move the A/C Head Unit to the direction "A" or "B" as shown so that the envelope is at maximum.**

Fig. M6-2


When move the A/C Head Unit to the direction A.
A/C Head Unit
Screwdriver
A
When move the A/C Head Unit to the direction B.
A/C Head Unit
Screwdriver
B

6. **To find the center of the maximum period of the envelope, move the A/C Head Unit to confirm the limits on either side of the maximum period.**

   Note:

   It will be possible to confirm step 6) after performing the following steps.

A. Exit the "I. Tracking Fix" mode, then skip the "J. PG Shifter" mode to enter other modes (except these 2). Or, close the service mode.

B. Press the Tracking Control Up Button on the camcorder several times (count the number of times pressed) until the maximum envelope is reduced to 1/2.

C. Press the Tracking Control Down Button on the camcorder several times (count the number of times pressed) until the maximum envelope is reduced to 1/2.

D. If the number of pressing is not the same, readjust A/C Head horizontal position.

7.2.2.6. CONFIRMATION OF ENVELOPE OUTPUT

Purpose:

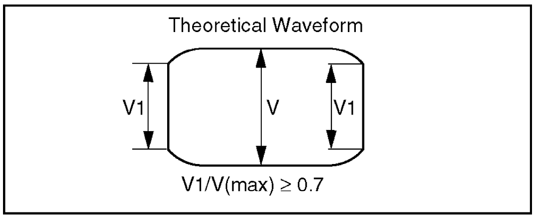
To achieve a satisfactory picture and secure precise tracking.

Symptom of Misadjustment:

If the envelope is output poorly, much noise will appear in the picture. Then the tracking will lose precision and the playback picture will be distorted by any slight variation of the tracking control circuit.

1. Connect the oscilloscope to Pin 30 (Envelope signal) on the TP Adjustment P.C.B. Use Pin 33 (Head Switch signal) as a trigger.
2. Play back the Alignment Tape (VFMS0004H6C).
3. Confirm that the envelope waveform is as flat as possible (V1/V(max)> 0.7).
   If adjustment is required, adjust S Post and/or T Post with "—" Screwdriver. Refer to "ENVELOPE OUTPUT ADJUSTMENT."

Fig. M7



7.3. ELECTRICAL ADJUSTMENT

7.3.1. INTRODUCTION

Most of Electrical adjustments can be adjusted using Personal Computer with PC-EVR Adjustment Software.
The Set-up of PC-EVR Adjustment and the VR (Variable Resister) Adjustment Procedure are described in this section.
For adjustment item (section) for the model you are servicing, please refer to the following table.

ADJUSTMENT ITEM (Section)	ADJUSTMENT SYTEM	MODEL			
		PV-L750	-------	PV-L780	PV-L850
Electrical Adjustment for CAMERA Section	Frequency Adjustment: VR Adjustment	○	○	○	—
	w/o Frequency Adjustment: PC-EVR Adjustment	○	○	○	○
Electrical Adjustment for VCR Section	PC-EVR Adjustment	○	○	○	○
Electrical Adjustment for COLOR EVF Section	PC-EVR Adjustment	—	○	—	—
Electrical Adjustment for MONOCHROME EVF Section	VR Adjustment	○	—	○	○
Electrical Adjustment for LCD MONITOR Section	PC-EVR Adjustment	○	○	○	○

7.3.2. INITIAL GUIDELINE

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

Replacement Parts **Adjustment Item**		MAIN C.B.A.	IC306(EEPROM)	IC309(HALL AMP)	IC504(CAMERA MICROCONTROLLER)	IC602(TIMING SIGNAL GENERATOR)	IC605(SAMPLING HOLD&AGC CONTROL)	IC3001(LUMINANCE/CHROMINANCE SIGNAL PROCESS)	IC3002(TWIN CCD 1H DELAY)	X601	ELECTRONIC VIEWFINDER C.B.A	IC901(EVF DRIVE)	CCD C.B.A.	IC601(CCD IMAGE SENSOR)	COLOR ELECTRONIC VIEWFINDER C.B.A	LCD C.B.A.	IC9001(RGB SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL)	IC9002(OP. AMP)	LENS UNIT	EVF UNIT	LCD UNIT	CYLINDER UNIT
Camera Section	Frequency Adjustment					○				○												
	VCO Adjustment		○																			
	Burst/Sync Level Adjustment		○																			
	Hall Amp Adjustment		○	○	○		○												○			
	Auto Focus Adjustment		○										○	○					○			
	Gamma Adjustment		○				○															
	A/D Input Adjustment		○				○															
	Iris PWM Adjustment		○	○			○															
	Pedestal Level Adjustment		○																			
	YH Level Adjustment		○																			
	Auto white balance Adjustment		○				○						○	○								
VCR Section	Playback Video Adjustment	○	○					○														
	Sync Tip Frequency Adjustment	○	○					○														
	Deviation Adjustment	○	○					○														
	Rec Level Adjustment	○	○					○														
	Comb Filter Gain Adjustment	○	○					○	○													
	YNR Adjustment	○	○					○	○													
	Head Switching Position Adjustment	○	○																			○
Color EVF Section	VCO Adjustment														○					○		
	EVF Pedestal/Contrast Adjustment														○					○		
	RB Sub Pedestal Adjustment														○					○		
	RB Sub Contrast Adjustment														○					○		
	Color Gain Adjustment														○					○		
	EVF White Balance Adjustment														○					○		
Monochrome EVF Section	Vertical Size Adjustment										○	○										
	Centering Adjustment										○	○										
	Brightness Adjustment										○	○										
	Focus Adjustment										○	○										
LCD Section	PLL Adjustment		○													○	○				○	
	Pedestal Level Adjustment		○													○	○				○	
	Contrast Adjustment		○													○	○				○	
	RB Sub Pedestal Adjustment		○													○	○				○	
	RB Sub Contrast Adjustment		○													○	○				○	
	Color Gain Adjustment		○													○	○				○	
	VCOM bias Adjustment		○													○	○	○			○	
	White Balance Adjustment		○													○	○				○	

Note: ○ : Adjustment Item

7.3.3. TEST EQUIPMENT

To do all of the Electrical Adjustment, the following equipments are required.

1. Dual-Trace Oscilloscope
Voltage Range: 0.001 to 50 V/Div.
Frequency Range: DC to 50 MHz
Probes: 10:1, 1:1

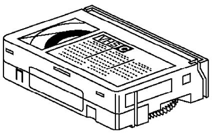
2. DVM (Digital Volt Meter)

3. Frequency Counter

4. Color TV Monitor

5. VHS-C Alignment Tape (VFMS0004H6C)

Fig. E1-1

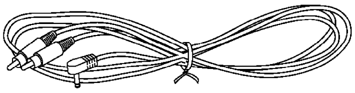


6. Vectorscope

7. Plastic Tip Driver

8. Audio Video Cable (VJAW0032)

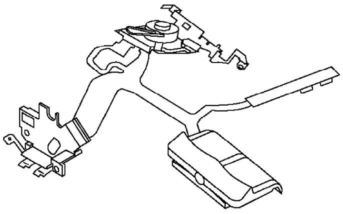
Fig. E1-2



9. Power Supply for Interface Box.

10. Side L FPC Unit (LSEQ0557)

Fig. E1-3



11. EVF Unit (LSYK0232 : Model A,C,D)

12. Color EVF Unit (LSYK0234 : Model B)

13. Personal Computer
PC: IBM PC/AT or compatible
OS: MS-DOS or MS-Windows
CPU: 486 or higher

Drive: 3.5 inch 1.44 MB floppy disk drive
Port: D-Sub-9-pin Serial or D-Sub-25-pin Serial
Monitor: VGA Color

14. PC-EVR Adjustment Program (VF0C2000DV10)

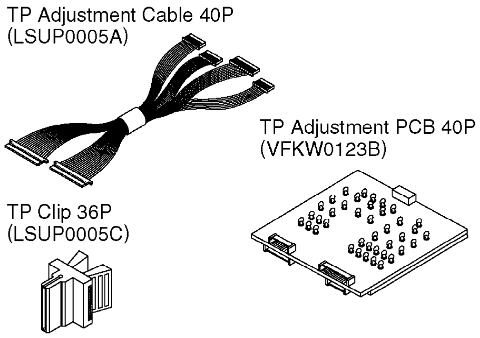
    Note:

    Ask latest version when placing order for PC-EVR Adjustment program.

15. CAAS Kit (VFKW1000)
    - Interface Box (VFKW1000A)
    - Camera Connecting Cable (VFKW1000B)
    - 9 Pin RS-232C Cable (VFKW1000C)
    - 25 Pin RS-232C Cable (VFKW1000D)

16. TP Board Kit

Fig. E1-4


TP Adjustment Cable 40P
(LSUP0005A)
TP Adjustment PCB 40P
(VFKW0123B)
TP Clip 36P
(LSUP0005C)

(adjustment equipment with using Infinity Lens)

17. Lighting (Light Box (VFK1164LBX1) is recommended)
18. Infinity Lens (VFK1164TCM02)
    (with Focus Chart)
19. 49 mm Ring (VFK1164TAR49)
20. Gray Scale Chart (VFK1164TFGS2)
21. Color Bar Chart (VFK1164TFCB2)
22. White Chart (VFK1164TFWC2)
23. Color Conversion Filter (VFK1164TFCT2)

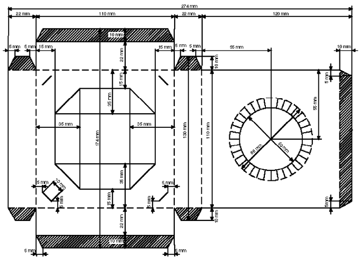
(adjustment equipment without using Infinity Lens)

24. Lighting (Halogen Lamp (2000 lux))
25. Reflection Chart

Reflection Chart Set (VFKS003-N)
(Reflection Chart Set consists of Gray Scale Chart (VFKS003A), Color Bar Chart (VFKS003B), Registration Chart (VFKS003C), and Resolution Chart (VFKS003D))
Gray Scale Chart (VFKS003A)
Color Bar Chart (VFKS003B)
Registration Chart (VFKS003C)
Resolution Chart (VFKS003D)
Color Chip Chart (VFKW0116)

26. **Color Temperature Conversion Filter 80A or equivalent Color Temperature Conversion Filter**
27. **Color Compensating Filter CC05M**
28. **A.W.B. Adjustment Fixture (VFKW0066)**

Fig. E1-5


274 mm
22 mm
110 mm
22 mm
120 mm
10 mm
5 mm
5 mm
15 mm
22 mm
15 mm
5 mm
5 mm
55 mm
10 mm
10 mm
15 mm
35 mm
5 mm
55 mm
35 mm
35 mm
174 mm
130 mm
110 mm
66 mm
60 mm
5 mm
10 mm
35 mm
5 mm
5 mm
15 mm
5 mm
5mm
22 mm
10 mm
10 mm
5 mm
5 mm

7.3.4. PREPARATION

1. **Connect the Interface Box to the TP Board Kit with Camera Connecting cable (VFKW1000B).**
2. **Connect the Interface Box to the Personal Computer with RS-232C cable (VFKW1000C or VFKW1000D).**
3. **Connect the TP Board Kit to S301 on the camcorder. Refer to "HOW TO USE TP BOARD KIT" in "SERVICE NOTES."**
4. **Connect the AC Adaptor and camcorder, and apply DC +6 V to the Interface Box.**
5. **Power on the camcorder.**

   Note:

   In case that the camcorder is in DEMO mode, release DEMO mode as follows:
   Power off the camcorder first. Then, disconnect the TP Board Kit,

and power on the camcorder. Then, press the STOP button over 5 seconds.

CAUTION:

A. Do not connect or disconnect any cables while the camcorder is powered on.

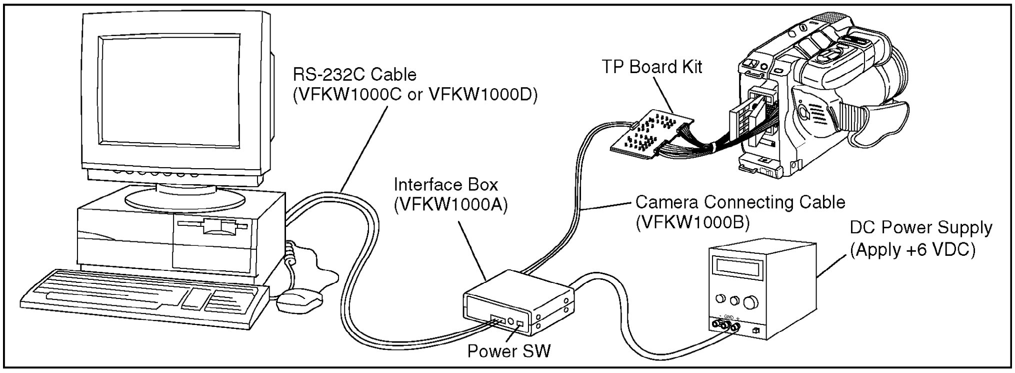
B. Before using the TP Board Kit, be sure to clean S301 pattern with alcohol and confirm that there is no dust in the TP Clip.

C. To achieve the best adjustment results, warm up the camcorder for approx. 30 minutes before adjustment.

D. When removing the TP Clip from S301 on the camcorder, be sure to pinch the grips.

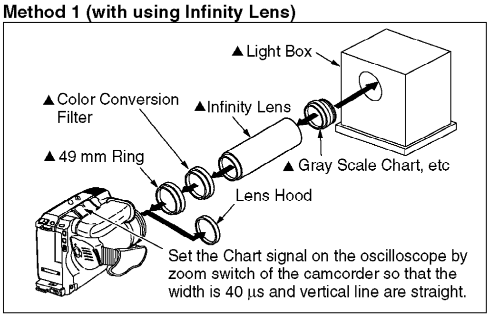
Fig. E2-1

<Computer Assisted Adjustment System>


RS-232C Cable
(VFKW1000C or VFKW1000D)
TP Board Kit
Interface Box
(VFKW1000A)
Camera Connecting Cable
(VFKW1000B)
DC Power Supply
(Apply +6 VDC)
Power SW

6. Set up the camcorder for adjustment as follows:

Method 1 (with using Infinity Lens)

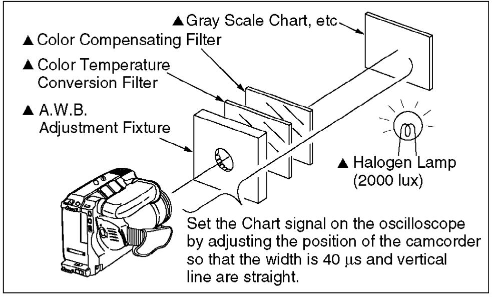

▲Light Box
▲Color Conversion
Filter
▲Infinity Lens
▲49 mm Ring
▲Gray Scale Chart, etc
Lens Hood

Set the Chart signal on the oscilloscope by zoom switch of the camcorder so that the width is 40 µs and vertical line are straight.

Fig. E2-2

OR

Method 2 (without using Infinity Lens)


▲Gray Scale Chart, etc
▲Color Compensating Filter
▲Color Temperature
Conversion Filter
▲A.W.B.
Adjustment Fixture
▲Halogen Lamp
(2000 lux)

Set the Chart signal on the oscilloscope by adjusting the position of the camcorder so that the width is 40 µs and vertical line are straight.

Fig. E2-3

For necessary equipments marked ▲ in Fig. E2-2 and E2-3, refer to the following table.

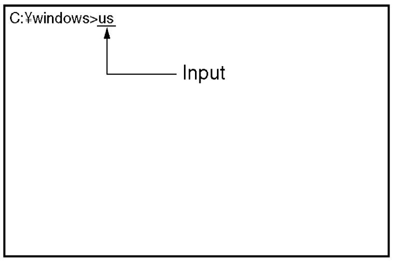
Adjustment Item	※ (VR Adjustment) / Necessary equipment	Method 1							Method 2								
		Light Box	Infinity Lens / 49 mm Ring	Focus Chart	Gray Scale Chart	Color Bar Chart	White Chart	Color Conversion Filter	Halogen Lamp	Any object (High contrast)	Gray Scale Chart	Color Bar Chart	Color Chip Chart	White Chart	Color Temperature Conversion Filter	Color Compensating Filter	A.W.B. Adjustment Fixture
Camera Section	Frequency Adjustment ※	Not used															
	VCO Adjustment																
	Burst/Sync Level Adjustment																
	Hall Amp Adjustment																
	Auto Focus Adjustment (Automatic Adjustment)		○	○					Not available (Note 1)								
	Gamma Adjustment	○	○		○				○		○						
	A/D Input Adjustment	○	○		○				○		○						
	Iris PWM Adjustment	○	○		○				○		○						
	Pedestal Level Adjustment	○	○		○				○		○						
	YH Level Adjustment	○	○		○				○		○						
	Auto white balance Adjustment																
	1 Indoor Preset Adjustment	○	○		○				○		○						
	2 Indoor Input Adjustment	○	○		○				○		○						
	3 Outdoor Preset Adjustment	○	○		○			○	○		○				○	○	○
	4 Outdoor Input Adjustment	○	○		○			○	○		○				○	○	○
	5 Color Phase & R-Y, B-Y Gain Adjustment (Indoor Mode)	○	○			○			○				○				
	6 Color Phase & R-Y, B-Y Gain Adjustment (Outdoor Mode)	○	○			○		○	○				○		○	○	○
VCR Section	Playback Video Adjustment	Not used															
	Sync Tip Frequency Adjustment																
	Deviation Adjustment	○	○		○				○		○						
	Rec Level Adjustment	Not used															
	Comb Filter Gain Adjustment																
	YNR Adjustment	○				○			○			○					
	Head Switching Position Adjustment	Not used															
Color EVF Section	VCO Adjustment																
	EVF Pedestal/Contrast Adjustment	○	○		○				○		○						
	RB Sub Pedestal Adjustment	○	○		○				○		○						
	RB Sub Contrast Adjustment	○	○		○				○		○						
	Color Gain Adjustment	○	○			○			○			○					
	EVF White Balance Adjustment	Not used															
Monochrome EVF Section	Vertical Size Adjustment ※	○	○		○				○		○						
	Centering Adjustment ※	○	○		○				○		○						
	Brightness Adjustment ※	○	○			○			○			○					
	Focus Adjustment ※	○	○		○				○		○						
LCD Monitor Section	PLL Adjustment	Not used															
	Pedestal Level Adjustment	○	○		○				○		○						
	Contrast Adjustment	○	○		○				○		○						
	RB Sub Pedestal Level Adjustment	○	○		○				○		○						
	RB Sub Contrast Level Adjustment	○	○		○				○		○						
	Color Gain Adjustment	○	○			○			○			○					
	VCOM Level Adjustment	○	○		○				○		○						
	White Balance Adjustment	○	○		○				○		○						

Note 1: Auto Focus adjustment (Automatic adjustment) is available for only Method 1.

7.3.5. SET UP OF PC-EVR ADJUSTMENT PROGRAM

1. **Turn on the Personal Computer.**
   Windows ® 95 will be set up automatically.
2. **Restart it in MS-DOS mode.**
3. **Change the current directory to the one including the PC-EVR Adjustment Program and start up the PC-EVR Adjustment Program as follows.**

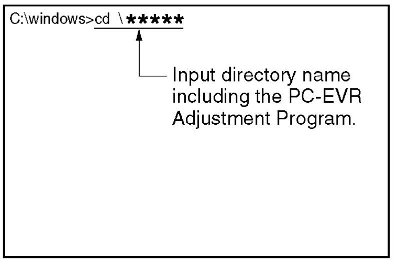
1) If MS-DOS is Japanese mode, input "us," and then press "ENTER" key to be US mode on.



```
C:¥windows>us
```

Fig. E3-1

2) Input "cd *****," and then press "ENTER" key to change the directory to the one including the PC-EVR Adjustment Program.

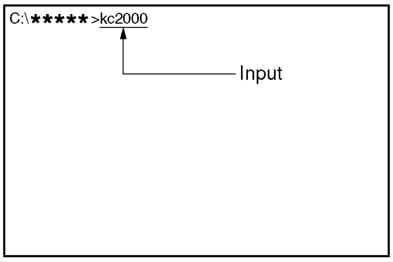


```
C:\windows>cd \*****
```

Input directory name including the PC-EVR Adjustment Program.

Fig. E3-2

3) Input "kc2000," and then press "ENTER" key to start up the PC-EVR Adjustment Program.



```
C:\*****>kc2000
```

Fig. E3-3

"Select Model Number Menu" will be displayed.

4. Select the model number which you are servicing, and then press "Enter" key. The starting display will be displayed.

5. Perform set up items according to menu until "Main Menu" is displayed.

6. Select "Sub Menu" to adjust or check, etc. the camcorder.

Note:

The adjusted data is stored to EEPROM IC after each adjustment.

7.3.6. HOW TO USE MAIN MENU

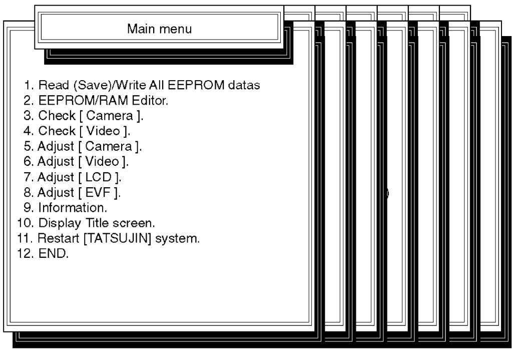
Main Menu

Select "Sub Menu" by pressing ↑ ↓ (UP/DOWN) key in Main Menu. Then, adjust or check the camcorder according to the menu. Then, press "ENTER" key. "Sub Menu" will be displayed.

Note:

Menu 5 through 8 are needed for adjustment.

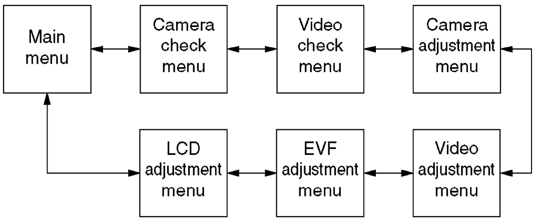
Fig. E4-1


Main menu

1. Read (Save)/Write All EEPROM datas
2. EEPROM/RAM Editor.
3. Check [Camera].
4. Check [Video].
5. Adjust [Camera].
6. Adjust [Video].
7. Adjust [LCD].
8. Adjust [EVF].
9. Information.
10. Display Title screen.
11. Restart [TATSUJIN] system.
12. END.

Also, by pressing ← → key, "Sub Menu" can be seen in order below.

Fig. E4-2


Main menu
Camera check menu
Video check menu
Camera adjustment menu
LCD adjustment menu
EVF adjustment menu
Video adjustment menu

7.3.7. VR ADJUSTMENT

7.3.7.1. CAMERA SECTION

7.3.7.1.1. Frequency Adjustment (Model: A, B, C)

Purpose:

To set the chroma subcarrier.

Symptom of Misadjustment:

The picture will be no color. (The burst shifts)

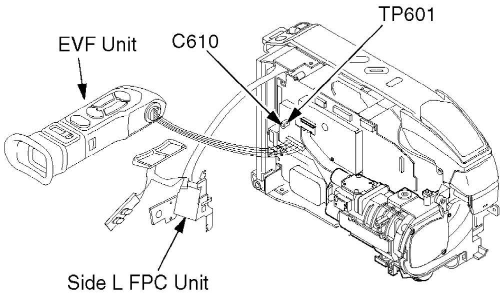
Specifications:

14.31818 MHz±80 Hz

Adjustment Procedure:

1. **Remove the Side Case (L) Unit. Refer to "CABINET SECTION" in DISASSEMBLY/ASSEMBLY PROCEDURES.**
   Connect the Side L FPC unit to the camcorder as shown in Fig. E5-1
2. **Connect the Frequency counter to TP601 of Main C.B.A.**
3. **Adjust C610 on the Main C.B.A. so that the frequency becomes 14.31818 MHz±80 Hz.**

Fig. E5-1



7.3.8. MONOCHROME EVF SECTION

Note:

Camcorder need NOT to be powered off and on after each adjustment procedure.

Preparation

1. **Before adjusting the Monochrome EVF, Camera section and VCR section adjustments must be completely adjusted.**
2. **Remove the EVF Case B Unit to gain access to VRs on the EVF C.B.A. (Refer to "DISASSEMBLY/ASSEMBLY PROCEDURES".)**

7.3.8.1. Vertical Size Adjustment

Purpose:

To set the standard vertical size on the EVF picture.

Symptom of Misadjustment:

The vertical EVF picture size will be abnormal.

Test Point: ----------

Adjustment: VR901 (EVF C.B.A.)

Specification: Best Vertical size

Input: Gray Scale Chart

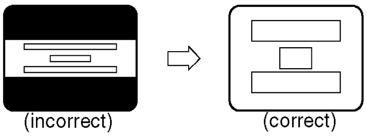
Mode: SP REC

Equipment: Viewfinder

Adjustment Procedure:

1. **Aim the camcorder at the gray scale chart.**
2. **Adjust the VERTICAL SIZE CONTROL (VR901) so that the vertical picture size becomes correct.**

Fig. E5-2



7.3.8.2. Centering Adjustment

Purpose:

To set the optimum picture position on the EVF picture.

Symptom of Misadjustment:

The EVF picture will be shifted.

Test Point: ----------

Adjustment: Deflection Yoke Centering Magnet

Specification: The picture position becomes centered on the EVF picture

INPUT: Gray Scale Chart

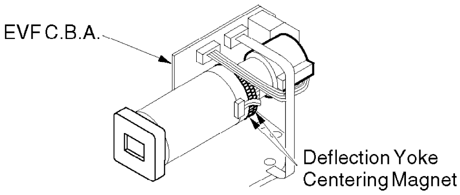
Mode: SP REC

Equipment: Viewfinder

Adjustment Procedure:

1. **Aim the camcorder at the gray scale chart.**
2. **Adjust the Deflection Yoke Centering Magnet by turning them so that the picture is centered in the Viewfinder.**

Fig. E5-3



7.3.8.3. Brightness Adjustment

Purpose:

To set the optimum EVF brightness level.

Symptom of Misadjustment:

The EVF picture will be too white or black.

Test Point: ----------

Adjustment: VR903 (EVF C.B.A.)

Specification: Natural Gradation

INPUT: Color Bar Chart

Mode: SP REC

Equipment: Viewfinder

Adjustment Procedure:

1. **Aim the camcorder at the color bar chart.**
2. **Adjust the BRIGHTNESS CONTROL (VR903) so that the brightness in the Viewfinder becomes natural gradation.**

7.3.8.4. Focus Adjustment

Purpose:

To set the optimum focus on the EVF picture.

Symptom of Misadjustment:

The EVF picture will be out of focus.

Test Point: ----------

Adjustment: VR902 (EVF C.B.A.)

Specification: Optimum focus

INPUT: Gray Scale Chart

Mode: SP REC

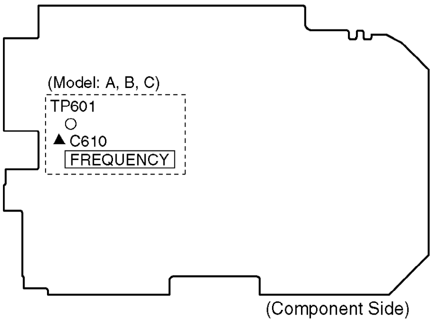
Equipment: Viewfinder

Adjustment Procedure:

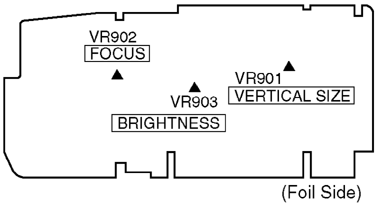
1. **Aim the camcorder at the gray scale chart.**
2. **Adjust the FOCUS CONTROL (VR902) to optimum focus in the Viewfinder.**

7.4. TEST POINTS AND CONTROL LOCATION

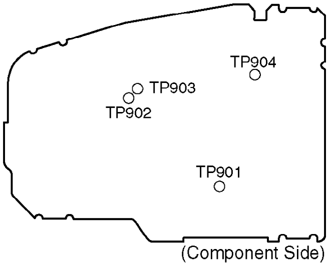
Main C.B.A.


(Model: A, B, C)
TP601
C610
FREQUENCY
(Component Side)

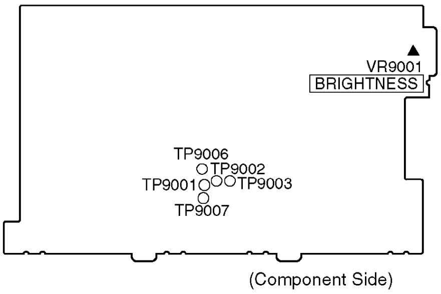
EVF C.B.A. (A, C, D)


VR902
FOCUS
VR901
VR903
VERTICAL SIZE
BRIGHTNESS
(Foil Side)

Color EVF A C.B.A. (B)


TP904
TP903
TP902
TP901
(Component Side)

LCD C.B.A.


VR9001
BRIGHTNESS
TP9006
TP9002
TP9001
TP9003
TP9007
(Component Side)

Test Point Information

○ Test Point with no Test Pin.

8. SCHEMATIC DIAGRAMS

8.1. SCHEMATIC DIAGRAM & CIRCUIT BOARD LAYOUT NOTE

8.2. MAIN I (SYSTEM CONTROL/SERVO) SCHEMATIC DIAGRAM

8.3. MAIN II (CYLINDER/CAPSTAN DRIVE) SCHEMATIC DIAGRAM

8.4. MAIN III (CAMERA I) SCHEMATIC DIAGRAM

8.5. MAIN IV (CAMERA II) / PC JACK / TV TUNER JACK (D) SCHEMATIC DIAGRAM

8.6. MAIN V (LENS DRIVE) SCHEMATIC DIAGRAM

8.7. MAIN VI (CCD DRIVE) / CCD SCHEMATIC DIAGRAM

8.8. MAIN VII (VIDEO) SCHEMATIC DIAGRAM

8.9. MAIN VIII (AUDIO) SCHEMATIC DIAGRAM

8.10. MAIN IX (POWER SUPPLY) SCHEMATIC DIAGRAM

8.11. LCD I (LCD POWER) / RELAY SCHEMATIC DIAGRAM

8.12. LCD II (LCD DRIVE) SCHEMATIC DIAGRAM

8.13. EVF SCHEMATIC DIAGRAM (A, C, D)

8.14. COLOR EVF SCHEMATIC DIAGRAM (B)

8.15. HEAD AMP SCHEMATIC DIAGRAM

8.16. TOP OPERATION / SIDE L FPC / MF VR / VCR OPERATION / MECHANISM FPC SCHEMATIC DIAGRAM

8.17. MIC/IR / BATTERY CATCHER SCHEMATIC DIAGRAM

8.18. INTERCONNECTION SCHEMATIC DIAGRAM

8.19. SIGNAL WAVEFORM

8.20. VOLTAGE CHART

9. CIRCUIT BOARD LAYOUT

9.1. MAIN C.B.A.

9.2. LCD C.B.A. / RELAY C.B.A.

9.3. EVF C.B.A. (A, C, D) / COLOR EVF C.B.A. (B) / MECHANISM FPC UNIT

9.4. CCD C.B.A. / PC JACK C.B.A. / TV TUNER JACK C.B.A. (D) / HEAD AMP C.B.A.

10. BLOCK DIAGRAMS

10.1. OVERALL BLOCK DIAGRAM

10.2. CCD BLOCK DIAGRAM

10.3. PROCESS BLOCK DIAGRAM

10.4. DSC BLOCK DIAGRAM

10.5. VIDEO BLOCK DIAGRAM

10.6. AUDIO BLOCK DIAGRAM

10.7. SYSTEM CONTROL BLOCK DIAGRAM

10.8. SERVO BLOCK DIAGRAM

10.9. AF BLOCK DIAGRAM

10.10. POWER SUPPLY BLOCK DIAGRAM

10.11. LCD POWER BLOCK DIAGRAM

10.12. LCD BLOCK DIAGRAM

10.13. EVF BLOCK DIAGRAM

10.14. COLOR EVF BLOCK DIAGRAM

10.15. TROUBLESHOOTING HINTS FOR THE CF CARD ERROR

11. EXPLODED VIEWS

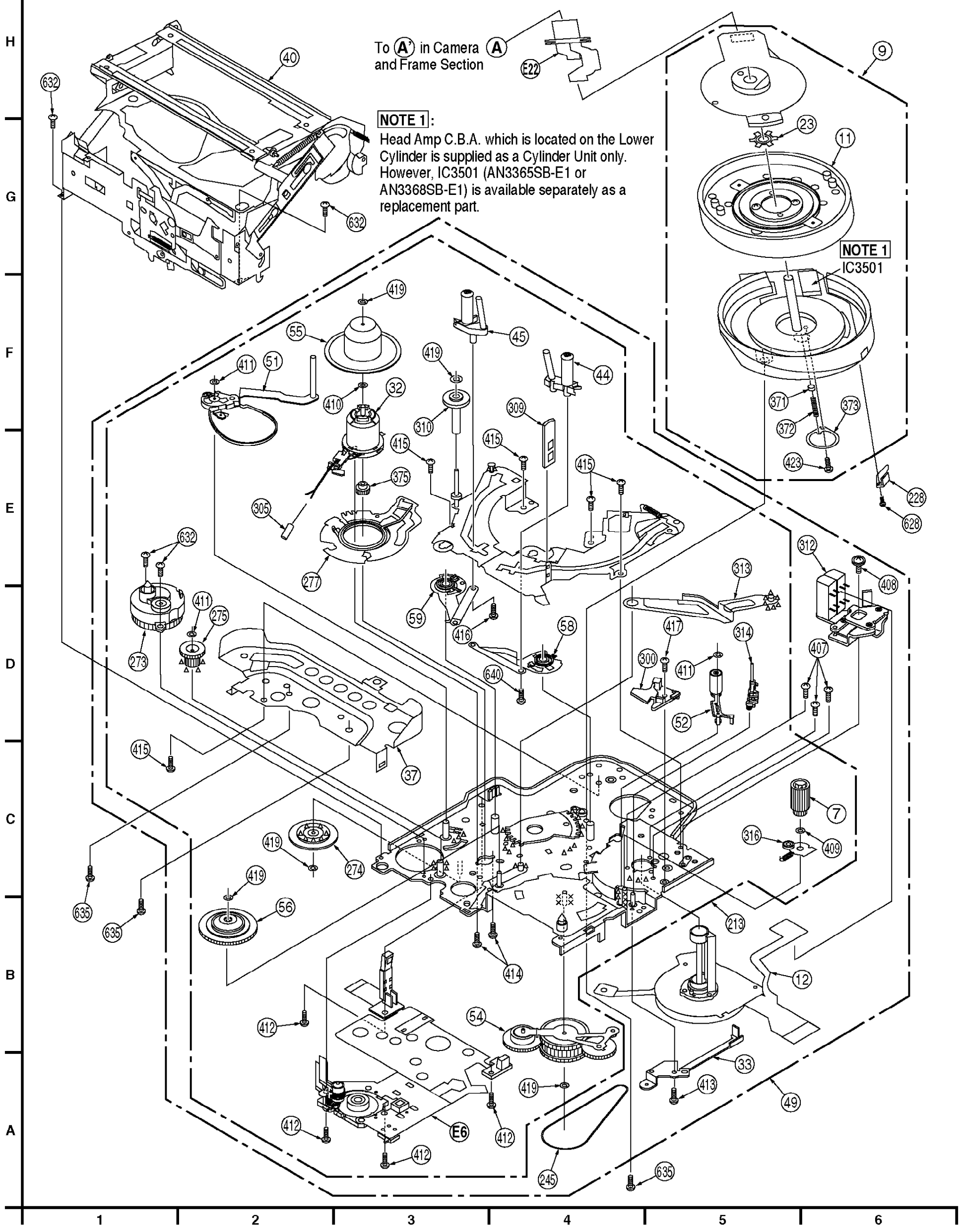
11.1. VCR MECHANISM SECTION

❶ VCR MECHANISM SECTION

Note: Parts with no Ref. No. in "EXPLODED VIEW" are not supplied.
And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
×××	Molytone Grease	Available from Factory	VFK1024
△△△	Grease	Available from Factory	VFKS0081



To Ⓐ' in Camera Ⓐ and Frame Section

NOTE 1:
Head Amp C.B.A. which is located on the Lower Cylinder is supplied as a Cylinder Unit only. However, IC3501 (AN3365SB-E1 or AN3368SB-E1) is available separately as a replacement part.

H
G
F
E
D
C
B
A
1
2
3
4
5
6
40
632
632
E22
9
23
11
NOTE 1
IC3501
419
55
45
419
411
51
410
32
44
309
310
415
415
415
375
305
277
371
373
372
423
228
628
632
411
275
273
59
416
58
313
312
408
417
314
407
640
300
411
52
37
415
7
316
409
419
274
419
56
635
635
213
414
12
54
412
33
413
419
49
412
412
E6
412
245
635

11.2. CAMERA AND FRAME SECTION

11.3. FRAME AND LCD SECTION

11.4. EVF SECTION (A, C, D)

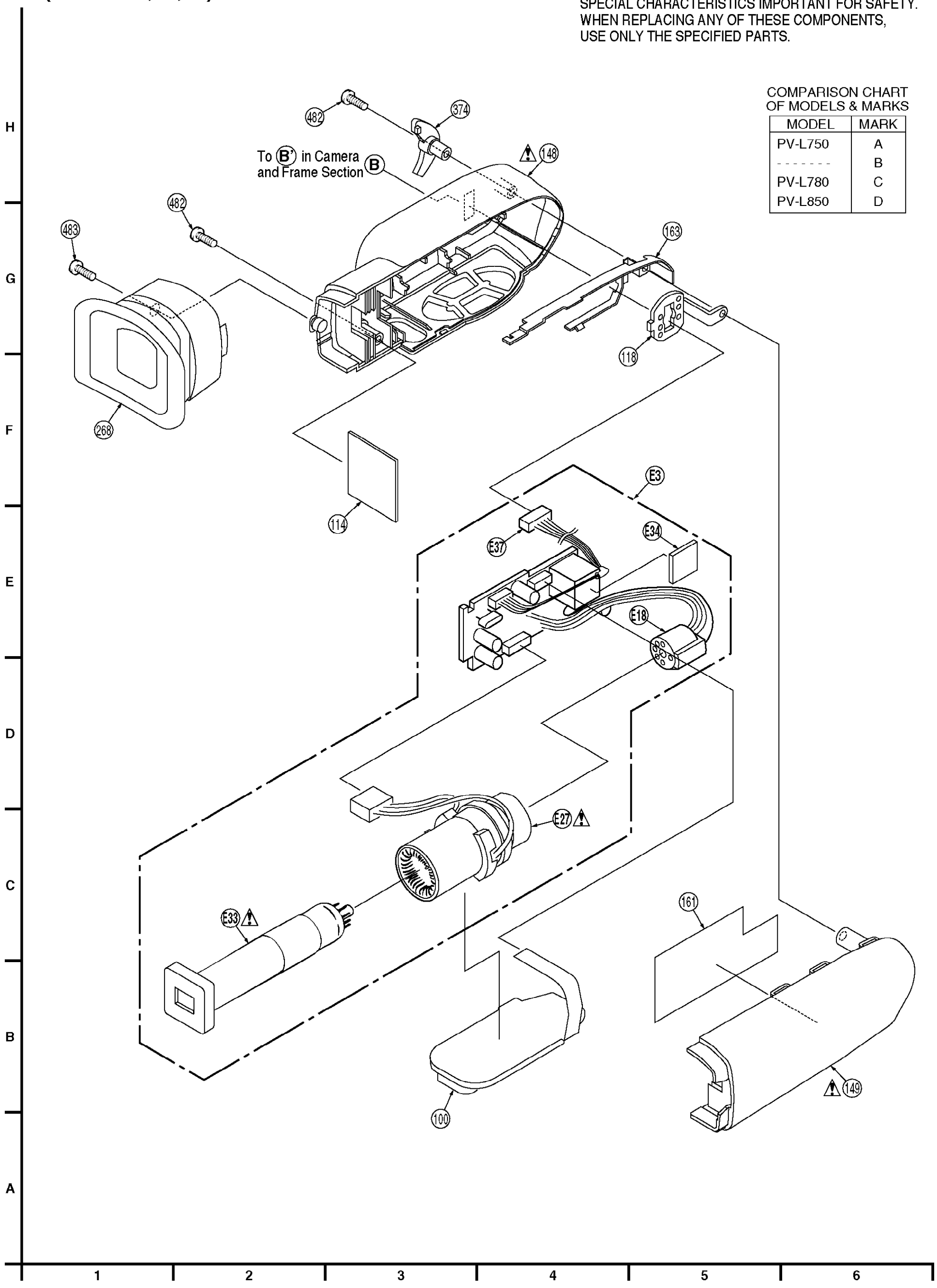
④ EVF SECTION
(Model: A, C, D)

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
- - - - - - -	B
PV-L780	C
PV-L850	D



482
374
To B' in Camera and Frame Section B
⚠148
482
483
163
118
268
114
E3
E37
E34
E18
E27⚠
E33⚠
161
100
⚠149
H
G
F
E
D
C
B
A
1
2
3
4
5
6

11.5. COLOR EVF SECTION (B)

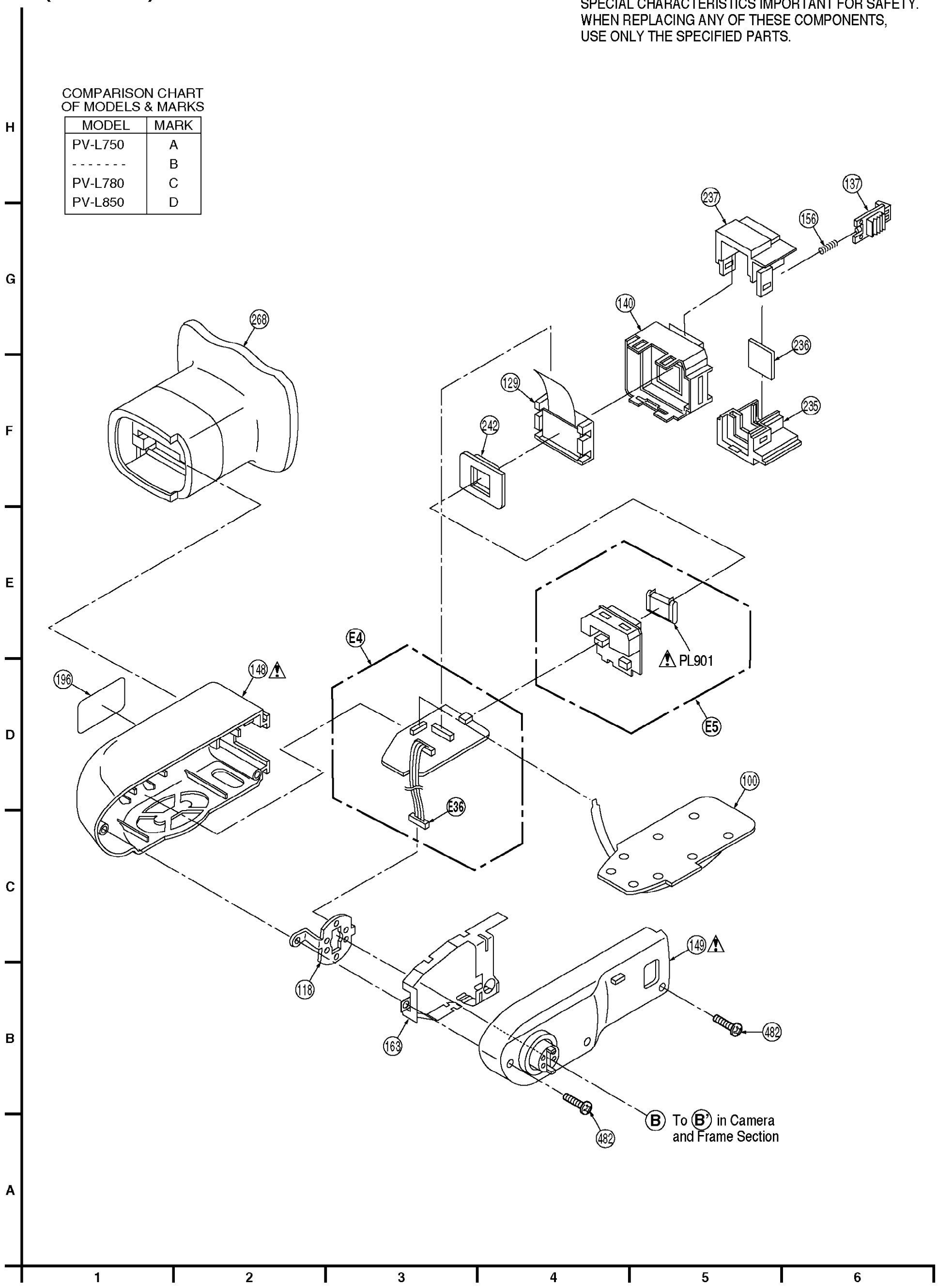
❹ COLOR EVF SECTION
(Model: B)

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART
OF MODELS & MARKS

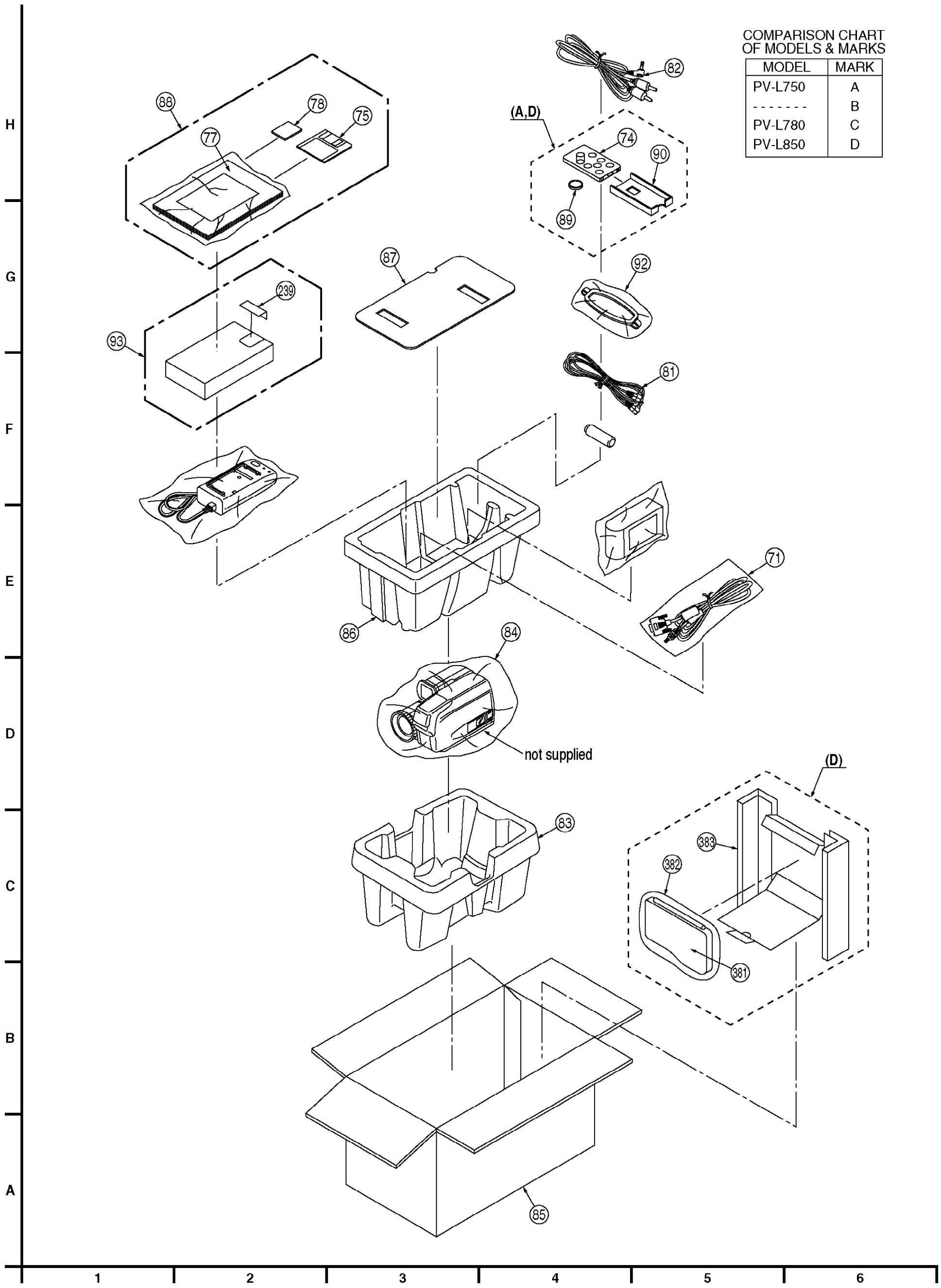
MODEL	MARK
PV-L750	A
- - - - - - -	B
PV-L780	C
PV-L850	D



H
G
F
E
D
C
B
A
237
137
156
268
140
236
129
235
242
E4
⚠ PL901
196
148 ⚠
E5
100
E36
149 ⚠
118
482
163
482
Ⓑ To Ⓑ' in Camera and Frame Section
1
2
3
4
5
6

11.6. PACKING PARTS AND ACCESSORIES SECTION

❺ PACKING PARTS AND ACCESSORIES SECTION


H
G
F
E
D
C
B
A
1
2
3
4
5
6
88
78
75
77
(A,D)
82
74
90
89
87
92
239
93
81
71
86
84
not supplied
(D)
83
383
382
381
85

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-------	B
PV-L780	C
PV-L850	D

12. REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

12.1. REPLACEMENT NOTES

12.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. IMPORTANT SAFETY NOTICE
   Components identified by the sign⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. SPECIAL NOTE
   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Parts with mark "VED" in the Remarks column are supplied from VED. Others are supplied from MKE.

12.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. Abbreviation
   RTL: Retention Time Limited
   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

3. Cut Washers (Ref No. 409, 411, and 419) are not reusable. If removed, install a new one.

4. Head Amp C.B.A. which is located on the Lower Cylinder is supplied as a Cylinder Unit only.
   However, IC3501 (AN3365SB-E1 or AN3368SB-E1) is available separately as a replacement part.

5. After replacing Mechanism Chassis Ass'y (Ref. No. 49) or Mechanism Chassis Sub Ass'y (Ref. No. 213), perform the Tape Interchangeability Adjustment procedures. Refer to "TAPE INTERCHANGEABILITY ADJUSTMENT."

12.1.3. Electrical Replacement Notes

1. Item numbers with capital letter E (Example: E1, E2,...) in the Ref. No. column are shown in the exploded views.
2. The parts with " ■ " mark are supplied as an unit, and their individual parts are also supplied separately.
3. Unless otherwise specified;
   All resistors are in Ω , 1/4 W,±5%, carbon, K = 1 000 Ω ,
   M = 1 000 k Ω .
   All capacitors are in μ F, P = μ μ F,±10%.
   All coils are in μ H, M = 1 000 μ H,±10%.
4. Abbreviation
   RTL: Retention Time Limited
   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
   NR: Non Repairable Board Ass'y
   MGF CHIP: Metal Glaze Film Chip
   C CHIP: Ceramic Chip
   COMPLX CMP: Complex Component
   W FLMPRF: Wirewound Flameproof
   C.B.A.: Circuit Board Assembly
   P.C.B.: Printed Circuit Board
   E.S.D.: Electrostatically Sensitive Devices
5. SERVICE OF CHIP PARTS
   When servicing chip parts, please use a soldering iron of less than 30 watts. Refer to "IC, TRANSISTOR AND CHIP PART INFORMATION" page.
6. The parts with " ● " are 0 Ω resistor. When replacing, a wire can be substituted for a 0 Ω resistor.
7. Lamp Kit (E41) replacement note:

Lamp is supplied as a Lamp Kit only (Kit No. VULS0001) which contains Lamp, Cushions, and Explanation Sheet.

8. IC306 replacement note:

When replacing this IC, be sure to write the initial data with PC-EVR Adjustment Program.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
- - - - - - -	B
PV-L780	C
PV-L850	D

12.2. MECHANICAL REPLACEMENT PARTS LIST

12.2.1. MECHANISM PARTS ON CHASSIS

Ref. No.	Part No.	Part Name& Description	Remarks
7	VDGW0072	TAKE GEAR	1
9		CYLINDER UNIT	
	VEGS0438	(A,B)	1
	VEGS0439	(C,D)	1
10	VGLW0088	TALLY LED PANEL	3
11		UPPER CYLINDER UNIT	
	VEHW0032	(A,B)	1
	VEHW0033	(C,D)	1
12	VEMS0337	CAPSTAN UNIT	1
13	LSEM0028	FOCUS MOTOR UNIT	2
15	VFBW0085	HAND STRAP,NYLON	2
16		OPTICAL FILTER	
	VFLW0414	(A,B,C)	2
	VFLW0448	(D)	2
17	VKFW0067	EVR COVER	3
22	VMAW0642	SPRING SUPPORTER	2
23	VMBS0717	PRE-LOAD SPRING	1
29	VMDW0341	BACK UP COVER	3
30	LSEQ0551	BATTERY CATCHER UNIT	3
31	VMGW0213	FILTER RUBBER	2
32	VEMW0078	LOADING MOTOR UNIT,2W	1
33	VMAW0745	P.C.B. ANGLE	1
37	VMAW0744	MECHANISM SUPPORT ANGLE	1
40	VXYS1369	CASSETTE UP UNIT	1
44	VXDW0196	TAKEUP POST UNIT	1
45	VXDW0187	SUPPLY POST UNIT	1
48		LENS UNIT	
	VXNW0018	(A,B,C)	2
	VXNW0019	(D)	2
49	VXKS0900	MECHANISM CHASSIS ASS'Y	1 RTL
50		VCR MECHANISM CHASSIS ASS'Y	
	VXKS0897	(A,B)	2 RTL
	VXKS0899	(C,D)	2 RTL
51	VXLW0080	TENSION UNIT	1

Ref. No.	Part No.	Part Name& Description	Remarks
52	VXLW0082	PINCH ARM UNIT	1
54	VXLS1124	IDLER ARM UNIT	1
55	VXPW0025	REEL TABLE UNIT	1
56	VXPW0024	REV CLUTCH	1
58	VXLW0078	TAKEUP LOADING ARM UNIT	1
59	VXLW0077	SUPPLY LOADING ARM UNIT	1
61		ELECTRONIC VIEWFINDER UNIT	
	LSYK0331	(A,C)	2
	LSYK0233	(D)	2
		COLOR ELECTRONIC VIEWFINDER UNIT	
	LSYK0369	(B)	2
67		CASSETTE COVER UNIT	
	LSYK0250	(A,B,C)	3
	LSYK0252	(D)	3
71	LSJA0276	PC CONNECTION CABLE W/PLUG	5
74		INFRARED REMOTE CONTROL UNIT	
	VSQW0038	(A,D)	5
75	LSFT0193	DRIVER SOFTWARE FD FOR WINDOWS 95/98	5
77		INSTRUCTION BOOK	
	LSQT0203	(A)	5
	LSQT0225	(B)	5
	LSQT0226	(C)	5
	LSQT0204	(D)	5
78	LSFA0009	CF CARD	5
81	VJAW0029	DC CABLE W/PLUG,6V	5
	OR VJAW0030	DC CABLE W/PLUG,6V	5
82	VJAW0039	AUDIO/VIDEO CABLE W/PLUG,0V	5
83	VPNW0050	CUSHION,PAPER	5
84	VPFW0049	BAG,POLYETHYLENE	5
85		PACKING CASE,PAPER	
	LSPG0758	(A)	5
	LSPG0836	(B)	5
	LSPG0839	(C)	5
	LSPG0759	(D)	5
86	VPNW0051	ACCESSORY CUSHION,PAPER	5
87	VPGW0755	ACCESSORY PAD	5
88		FAN BAG	
	LSQF0203	(A)	5
	LSQF0225	(B)	5
	LSQF0226	(C)	5
	LSQF0204	(D)	5
89	VSBW0004	BATTERY UNIT	3,5
90		REMOTE CONTROL HOLDER	
	VGQ6893	(A,D)	5
92	VYCW0225	SHOULDER STRAP,POLYPROPHYLENE	5
93	VYMW0009	CASSETTE ADAPTOR	5
100	VEQW0279	VCR OPERATION UNIT	4
106	VGLW0090	POWER LED PANEL	2
107	VGTW0575	EJECT KNOB	3
109	VGTW0603	TAPE CHANGE KNOB	2
111	LSGU0136	DISPLAY BUTTON	3

Ref. No.	Part No.	Part Name& Description	Remarks
114		EVF DUST COVER	
	LSDL0083	(A,C,D)	4
115		SIDE CASE L,ABS RESIN	
	LSKM0351	(A)	⚠ 2
	LSKM0407	(B,C)	⚠ 2
	LSKM0352	(D)	⚠ 2
117	VMAW0749	TRIPOD FRAME	2
118		EVF PLATE,STEEL	
	LSMA0416	(A,C,D)	4
	VMAW0677	(B)	4
119	VMAW0750	EVF ANGLE	2
122	VMZW0685	BARRIER	3
128		MICROPHONE UNIT	
	LSXM0007	(A)	3
	LSXM0005	(B,C)	3
	LSXM0006	(D)	3
129		LIQUID CRYSTAL DISPLAY PANEL	
	LCX032AKB-8	(B)	4
130	LSEQ0555	TOP OPERATION UNIT	3
131	LSEQ0557	SIDE L FLEXIBLE PRINTED CIRCUIT UNIT	2
137		LOCK KNOB	
	VGTW0547	(B)	4
138		TOP OPERATION BUTTON	
	LSGU0138	(A,B,C)	3
	VGUW0194	(D)	3
140		LCD MASK	
	LSKF0288	(B)	4
148		EVF CASE A,ABS RESIN	
	LSKM0267	(A,C)	⚠ 4
	LSKM0353	(B)	⚠ 4
	LSKM0303	(D)	⚠ 4
149		EVF CASE B,ABS RESIN	
	LSKM0268	(A,C)	⚠ 4
	LSKM0354	(B)	⚠ 4
	LSKM0305	(D)	⚠ 4
151		SIDE CASE R,ABS RESIN	
	LSKM0346	(A,B,C)	⚠ 3
	LSKM0347	(D)	⚠ 3
156		LOCK SPRING	
	VMBW0235	(B)	4
161		CAUTION LABEL	
	LSQL0878	(A,C,D)	4
163		ESD PLATE,STEEL	
	LSSC0324	(A,C,D)	4
	VSCW0869	(B)	4
164		CAUTION LABEL	
	VQLS3464	(A,C,D)	2
170	LSGU0125	EIS BUTTON	3
182	VQLW2037	LENS LABEL	2
183	VMDW0510	ARM HOLDER	2
184	LSXA0287	SENSOR SHIELD CASE UNIT,STEEL	2

Ref. No.	Part No.	Part Name& Description	Remarks
185		INFRARED PANEL	
	VGLW0089	(A,D)	2
186	VGFW0020	LIGHT PROTECTOR	3
187	VMDW0509	HINGE R	3
188	VMRW0025	LIGHT REFLECTOR	3
192	VSCW0935	LIGHT SHEET,AL	3
194		DIGITAL SELECT KNOB	
	LSGT0038	(A,B,C)	3
	VGTW0604	(D)	3
196		EVF LABEL	
	VQLW1735	(B)	4
200	VGTW0605	PHOTO SELECT KNOB	3
203	LSXY0157	LAMP UNIT	⚠ 3
206	VMAW0752	STRAP ANGLE A	3
207	VMAW0753	STRAP ANGLE B	3
209	VMAW0754	GRIP ANGLE	2
211		LIQUID CRYSTAL DISPLAY PANEL UNIT	
	VXYW0210	(A,C,D)	3
	LSXY0178	(B)	3
212	LSXY0177	LEAD LIGHT PANEL UNIT	3
213	VXKS0895	MECHANISM CHASSIS SUB ASS'Y	1
214	LSMZ0213	TAPE GUIDE	3
215	LSMZ0210	GUIDE COVER	3
216	LSMZ0214	PROTECTOR	3
218	LSEK0376	CF CARD CONNECTOR UNIT	3
219	LSYK0237	LENS RING UNIT	2
221	VEMW0085	ZOOM MOTOR UNIT,300MW	2
228		BULGE CHIP	
	VMDW0357	(A,B)	1
	VMDW0374	(C,D)	1
229	VMBW0333	TAPE GUIDE SPRING	3
234	VMTW0023	LENS RUBBER	2
235		EVF LENS COVER B	
	VMDW0451	(B)	4
236		PROTECT PLATE,STEEL	
	LSKG0007	(B)	4
237		EVF LENS COVER A	
	VMDW0450	(B)	4
239	VKFS1021	BATTERY COMPARTMENT LID	5
242		LCD CUSHION	
	VMGW0204-Y	(B)	4
245	VDVW0003	CAPSTAN BELT	1
250		LIGHT CAUTION LABEL	
	LSQL0880	(A,B,C)	⚠ 2
	LSQL0881	(D)	⚠ 2
268		EYE CAP UNIT	
	LSYK0238	(A,C,D)	4
	VYKW2901	(B)	4
273	VXYW0195	REDUCTION GEAR UNIT	1
274	VDGW0063	REDUCTION GEAR A	1
275	VDGW0064	REDUCTION GEAR B	1
277	VXYW0194	MAIN CAM UNIT	1

Ref. No.	Part No.	Part Name& Description	Remarks
284	VEQW0294	MANUAL FOCUS VARIABLE RESISTOR UNIT	2
286	LSGT0037	LIGHT KNOB	3
290	VSCW0951	ESD PLATE L,STEEL	2
295	VMBW0306	SHUTTER SPRING	3
297	VMDW0512	LENS PIECE	2
300	VMDW0494	OPENER	1
301	LSML0126	ARM	2
305	LSWZ0008	TUBE	1
307	LSSC0329	LENS ESD PLATE,STEEL	2
309	VMDW0486	PINCH TAPE GUIDE	1
310	VXJW0095	IMPEDANCE ROLLER UNIT	1
312	VEHS0588	AUDIO CONTROL HEAD UNIT	1
313	VMLW0083	PINCH TOGGLE	1
314	VXLW0081	P5 ARM UNIT	1
316	VXLS1125	REV BRAKE ARM UNIT	1
320		MICROPHONE CASE UNIT,ABS RESIN	
	VYKW3139	(A,B,C)	3
	LSYK0351	(D)	3
321	VKFW0065	WING	3
335		LCD CASE B,ABS RESIN	
	VKMW1798	(A,C,D)	⚠ 3
	LSKM0424	(B)	⚠ 3
352	VSCW0957	LCD SHIELD CASE,STEEL	3
355		LCD CASE A UNIT,ABS RESIN	
	LSYK0267	(A,B)	3
	LSYK0374	(C)	3
	LSYK0268	(D)	3
365	LSMP0225	CASSETTE FRAME	3
366		LCD SHAFT UNIT	
	LSXA0301	(A,B,C)	3
	LSXA0302	(D)	3
371	LSSA0002	EARTH CONTACT	1
372	LSMB0168	CONTACT SPRING	1
373	LSMA0336	CONTACT PLATE,STEINLESS	1
374		EVF PIECE	
	LSKM0270	(A,C)	4
	LSKM0301	(D)	4
375	VDGW0059	MOTOR GEAR	1
376	VSCW0873	ALUMINUM FOIL	3
377	VSCW0872	ALUMINUM FOIL	3
381		TV TUNER UNIT	
	LSSQ0184	(D)	5 RTL
382		BAG,POLYETHYLENE	
	VPFW0043	(D)	5
383		TUNER PACKING CASE,PAPER	
	LSPG0783	(D)	5

12.2.2. SCREWS AND WASHERS

Ref. No.	Part No.	Part Name& Description	Remarks
404	XQN2+BF3FXK	SCREW,STEEL	3
407	XQN16+A32	SCREW,STEEL	1
408	VHDW0124	SCREW W/WASHER,STEEL	1
409	VMXW0217	CUT WASHER,STEEL	1
410	XWGV15Z32G	POLY SLIDER WASHER	1
411	VMXW0213	CUT WASHER,STEEL	1
412	XQN2+B35	SCREW,STEEL	1
413	XQN2+A22	SCREW,STEEL	1
414	XQN14+A32	SCREW,STEEL	1
415	XQN2+B22	SCREW,STEEL	1
416	XQN14+BJ25FZ	SCREW,STEEL	1
417	XQN2+B2	SCREW,STEEL	1
419	VMX2026	CUT WASHER,STEEL	1
421	XQN16+BF4FN	SCREW,STEEL	2
423	XQN16+B3FN	SCREW,STEEL	1
469	XQN2+BF4FXK	SCREW,STEEL	3
472	VHDW0102	SCREW,STEEL	3
473	VHDW0100	SCREW,STEEL	2
481	VMBW0253	WASHER,STEEL	2
482	XQN2+ CJ12FXK	SCREW,STEEL	4
483	XQN2+BJ4FXK	SCREW,STEEL	2,4
501	XQN16+CJ5FY	SCREW,STEEL	2
502	XQN16+CJ6	SCREW,STEEL	2
504	XQN2+CF3	SCREW,STEEL	2
533	XQN2+BF5FXK	SCREW,STEEL	2,3
586	XQN2+BJ5FXK	SCREW,STEEL	2,3
604	XQN2+BJ8FXK	SCREW,STEEL	3
617	XQN2+ BJ10FXK	SCREW,STEEL	3
620	XQN2+BJ6FXK	SCREW,STEEL	3
628	XQN16+B3FU	SCREW,STEEL	1
630	VMXW0175	WASHER,NYLON	2
632	XQN14+B3	SCREW,STEEL	1
635	XQN16+C5FU	SCREW,STEEL	1
637	XQN2+CF10FU	SCREW,STEEL	2
639	LSHD0049	SCREW,STEEL	2
640	LSHD0054	SCREW,STEEL	1

12.2.3. SERVICE FIXTURE AND TOOLS

Ref. No.	Part No.	Part Name& Description	Remarks
	VFKS002	LIGHT BOXW/CHARTS SET	
	VFKS002A	GLAY SCALE CHART	
	VFKS002B	COLOR BAR CHART	
	VFKS002C	REGISTRATION CHART	
	VFKS002D	RESOLUTION CHART	
	VFKS002Y	LIGHT BOX	
	VFKS003-N	REFLECTION CHART SET	
	VFKS003A	GLAY SCALE CHART	
	VFKS003B	COLOR BAR CHART	
	VFKS003C	REGISTRATION CHART	
	VFKS003D	RESOLUTION CHART	
	VFK1164TFWC2	WHITE CHART	VED
	VFK1164TFGS2	GRAY SCALE CHART	VED
	VFK1164TFCB2	COLOR BAR CHART	VED
	VFK1164TFCT2	CONVERSION FILTER	VED
	VFK1164LBX1	LIGHT BOX	VED
	VFK1164TCM02	COLLIMATOR(INFINITY LENS)(WITH FOCUS CHART)	VED
	VFK1164TLA01	LAMP	VED
	VFK1164TAR58	ATTACHMENT RING (58mm)	VED
	VFK1164TAR55	ATTACHMENT RING (55mm)	VED
	VFK1164TAR52	ATTACHMENT RING (52mm)	VED
	VFK1164TAR49	ATTACHMENT RING (49mm)	VED
	VFK1164TAR46	ATTACHMENT RING (46mm)	VED
	VFK1164TAR43	ATTACHMENT RING (43mm)	VED
	VFK1164TAR37	ATTACHMENT RING (37mm)	VED
	VFK1164TAR3A	ATTACHMENT RING (30.5mm)	VED
	VFK1164TAR27	ATTACHMENT RING (27mm)	VED
	VFMS0004H6C	VHS-C ALIGNMENT TAPE	
	VFMW0001C	VHS-C ALIGNMENT TAPE	
	VFK27	HEAD CLEANING STICK	
	VFKS0081	GREASE	
	LSUQ0002	GREASE	
	VFK1024	MOLYTONE GREASE	
	VUVS0007	EXTENSION CABLE 12P	
	LSUA0020	EXTENSION CABLE 20P	
	VUVS0012	EXTENSION CABLE 22P	
	VUVS0015	EXTENSION CABLE 28P	
		TP BOARD KIT	
	LSUP0005A	TP ADJUSTMENT CABLE40P	
	VFKW0123B	TP ADJUSTMENT PCB 40P	
	LSUP0005C	TP CLIP 36P	
	VFKW0066	A.W.B. ADJUSTMENT FIXTURE	
	VFKW0116	COLOR CHIP CHART	
	VJAW0032	AUDIO VIDEO CABLE	
	VFKW1000	CAAS KIT	
	VFKW1000A	INTERFACE BOX	
	VFKW1000B	CAMERA CONNECTING CABLE	
	VFKW1000C	9PIN RS-232C CABLE	
	VFKW1000D	25PIN RS-232C CABLE	
	VHDW0125	LOCK SCREW	
	LSEQ0557	SIDE L FPC UNIT	
	LSEQ0551	BATTERY CATCHER UNIT	
		EYE UNIT	

		EVF UNIT	
Ref. No.	Part No.	Part Name& Description	Remarks
	LSYK0232	(A,C,D)	
		COLOR EVF UNIT	
	LSYK0234	(B)	
	LSEP8033A1	RELAY C.B.A.	

12.3. ELECTRICAL REPLACEMENT PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name& Description	Remarks
E1	LSEP8026A1	MAIN C.B.A.	■ E.S.D. RTL
	(A)		
E1	LSEP8026F1	MAIN C.B.A.	■ E.S.D. RTL
	(B)		
E1	LSEP8026E1	MAIN C.B.A.	■ E.S.D. RTL
	(C)		
E1	LSEP8026B1	MAIN C.B.A.	■ E.S.D. RTL
	(D)		
E8	LSEP8050A1	PC JACK C.B.A.	■ RTL
E9	LSEP8051A1	TV TUNER JACK C.B.A.	■ RTL
	(D)		
E2	LSEQ0548	CCD C.B.A.	■ E.S.D. RTL
	(A,B,C)		
E2	LSEQ0571	CCD C.B.A.	■ E.S.D. RTL
	(D)		
E3	LSEQ0558	ELECTRONIC VIEWFINDER C.B.A.	■ RTL
	(A,C,D)		
E4	LSEP8035A1	COLOR ELECTRONIC VIEWFINDER A C.B.A.	■ RTL
	(B)		
E5	VEPW1671A1	COLOR ELECTRONIC VIEWFINDER B C.B.A.	■ RTL
	(B)		
E52	LSEP8031A1	LIQUID CRYSTAL DISPLAY C.B.A.	■ RTL
	(A,B,C)		
E52	LSEP8031B1	LIQUID CRYSTAL DISPLAY C.B.A.	■ E.S.D. RTL
	(D)		
E53	LSEP8033A1	RELAY C.B.A.	■

12.3.1. MAIN C.B.A. ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC301	MN67324	IC, LOGIC DIGITAL SIGNAL PROCESSOR	E.S.D.
IC302	ZA4035H	IC, 2.7M D RAM FIELD MEMORY	E.S.D.
IC304	SNAHC2G240HT	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
	OR TC7W240FU	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
IC306	BR9040FV-DE2	IC, 4K EEP ROM	E.S.D.
IC309	BA10324AFVE1	IC, LINEAR HALL/IRIS AMP	
	OR LM324DB	IC, LINEAR HALL/IRIS AMP	
IC310	HD74HC244TEL	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
	OR SN74HC244PWR	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
IC311	HD74HC244TEL	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
	OR SN74HC244PWR	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
IC503	ADM3202ARU	IC, RS232C DRIVER	
IC504	MN103004KEA	IC, 32BIT MICROCONTROLLER	E.S.D.
	(A,B,C)		
	MN103004KEC	IC, 32BIT MICROCONTROLLER	E.S.D.
	(D)		
IC602	MN5293-1	IC, CMOS GATE ARRAYS TIMING GENERATOR	E.S.D.
IC603	MN3112SA-E1	IC, CMOS STANDARD LOGIC CCD V DRIVE	E.S.D.
IC605	AN2109NFHQ	IC, LINEAR SAMPLIMG HOLD	
IC606	TC7S08FTE85L	IC, CMOS STANDARD LOGIC NAND GATE	E.S.D.
	OR TC7S08FTE85R	IC, CMOS STANDARD LOGIC NAND GATE	E.S.D.
	(A,B,C)		
IC701	LB1837M-TE-L	IC, LINEAR MOTOR DRIVE	
	OR LB1837MLTEL3	IC, LINEAR MOTOR DRIVE	
	OR LB1837MTEL3	IC, LINEAR MOTOR DRIVE	
IC702	LB1837M-TE-L	IC, LINEAR MOTOR DRIVE	
	OR LB1837MLTEL3	IC, LINEAR MOTOR DRIVE	
	OR LB1837MTEL3	IC, LINEAR MOTOR DRIVE	
IC1001	BA9710KV	IC, LINEAR POWER CONTROL	
IC2001	AN3897FH	IC, LINEAR CYLINDER/CAPSTAN MOTOR DRIVE CONTROL	
IC2002	UN224-TX	IC, LINER POWER TRANSISTOR MOTOR DRIVE	
IC2003	UN224-TX	IC, LINER POWER TRANSISTOR MOTOR DRIVE	
IC3001	AN2401NFH	IC, LINEAR Y/C REC/PB PROCESS	
IC3002	MN38663S	IC, CCD 1H DELAY	E.S.D.

Ref. No.	Part No.	Part Name& Description	Remarks
IC3003	NJU4053BV	IC, CMOS STANDARD LOGIC SWITCHING	E.S.D.
	OR SNLV4053APW	IC, CMOS STANDARD LOGIC SWITCHING	E.S.D.
	(D)		
IC4001	BA7757BK	IC, LINEAR AUDIO REC/PB PROCESS	
IC6001	MN101D02FWD1	IC, 8BIT MICROCONTROLLER	E.S.D.
IC6002	R3111Q391ATR	IC, LINEAR RESET	
	OR S80839ANNPT2	IC, LINEAR RESET	
	OR XC61CN3902NR	IC, LINEAR RESET	
IC6005	S3510AEFJTB	IC, PERIPHERAL MCU CLOCK IN	E.S.D.
IC6006	RH5RE45AA-T1	IC, PERIPHERAL MCU +4.5V REGULATOR	E.S.D.
	OR XC62FP4502PR	IC, PERIPHERAL MCU +4.5V REGULATOR	E.S.D.
IC6007	BA6288FS-E2	IC, LINEAR LOADING MOTOR DRIVE	
IC6203	CNB10010RL	TAKEUP REEL SENSOR	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q301	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q302	2SC3931	CHIP	
Q303	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q305	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q306	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q307	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q310	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q311	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q617	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q703	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1001	DTA114EU	CHIP	
	OR UN5111	CHIP	
Q1002	DTA144EU	CHIP	
	OR UN5113	CHIP	
Q1003	DTA114TU	CHIP	
	OR UN5115	CHIP	
Q1005	2SB1628-T1ZX	CHIP	
	OR 2SB1628-T1ZY	CHIP	
Q1006	MPL1-TL	CHIP	
Q1007	2SB1424T100P	CHIP	

Ref. No.	Part No.	Part Name& Description	Remarks
	OR 2SB1424T100Q	CHIP	
Q1008	MPL1-TL	CHIP	
Q1009	MPL1-TL	CHIP	
Q1010	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q1011	IMX1T108	COMPLX CMP SI NPN CHIP	
	OR XN4501	COMPLX CMP SI NPN CHIP	
Q1012	2SB1073	CHIP	
	OR 2SB1386T100Q	CHIP	
	OR 2SB1386T100R	CHIP	
	(A,B)		
Q1013	2SB1585	CHIP	
	OR 2SB970	CHIP	
	(C,D)		
Q1014	2SB1073	CHIP	
	OR 2SB1386T100Q	CHIP	
	OR 2SB1386T100R	CHIP	
Q1015	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1020	2SB1073	CHIP	
	OR 2SB1386T100Q	CHIP	
	OR 2SB1386T100R	CHIP	
Q1021	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q1022	2SB1585	CHIP	
	OR 2SB970	CHIP	
Q1023	IMX1T108	COMPLX CMP SI NPN CHIP	
	OR XN4501	COMPLX CMP SI NPN CHIP	
Q1101	2SA2014-TD	CHIP	
Q1102	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1103	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q1104	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1105	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q1106	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3003	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3004	2SC3931	CHIP	
Q3005	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3021	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3022	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	

Ref. No.	Part No.	Part Name& Description	Remarks
Q3027	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3028	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3029	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3030	DTA144EU	CHIP	
	OR UN5113	CHIP	
	(D)		
Q3031	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
	(D)		
Q4002	IMZ1T108	COMPLX CMP SI NPN/PNP CHIP	
	OR XN4601	COMPLX CMP SI NPN/PNP CHIP	
Q4003	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4004	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4007	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q4008	2SD2432(R)	CHIP	
	OR 2SD602(R)	CHIP	
	OR 2SD602A(R)	CHIP	
Q4009	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4010	2SB1585	CHIP	
	OR 2SB970	CHIP	
Q4011	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q6004	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q6005	DTC124TU	CHIP	
	OR UN5217	CHIP	
Q6006	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
	(A,D)		
Q6008	DTC124TU	CHIP	
	OR UN5217	CHIP	
Q6009	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q6010	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q6011	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q6012	2SK1958	F.E.T. CHIP	
Q6013	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q6018	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q6021	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q6022	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D503	RD12S-T1B	ZENER CHIP 12V	
	(D)		
D504	RD12S-T1B	ZENER CHIP 12V	
	(D)		
D505	RD12S-T1B	ZENER CHIP 12V	
	(D)		
D506	RD12S-T1B	ZENER CHIP 12V	
	(D)		
D1001	RD12S-T1B	ZENER CHIP 12V	
D1002	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1004	EP10QY03TE8L	CHIP	
D1005	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1006	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1007	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1008	MA728	CHIP	
D1101	RD12S-T1B	ZENER CHIP 12V	
D1102	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D4001	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D4002	MA3120WA	ZENER CHIP 12V	
D6001	DAN202UT	CHIP	
	OR MA142WK	CHIP	
D6005	DAP202UT	CHIP	
	OR MA142WA	CHIP	
D6008	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D6015	DA204U	CHIP	
	OR MA143	CHIP	
D6019	MA111	CHIP	
	OR 1SS355TE-17	CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R301	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R302	VRJSD3D6800	MGF CHIP +-0.5% 1/16W 680	
R303	ERJ3GEYG102V	MGF CHIP +-2% 1/16W 1K	
R304	VRJSD3D2201	MGF CHIP +-0.5% 1/16W 2.2K	
R305	VRJSD3D2201	MGF CHIP +-0.5% 1/16W 2.2K	
R306	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R307	ERJ3GEYG103V	MGF CHIP +-2% 1/16W 10K	
R308	ERJ3GEYG391V	MGF CHIP +-2% 1/16W 390	
R309	ERJ3GEYG102V	MGF CHIP +-2% 1/16W 1K	
R310	ERJ3GEYG102V	MGF CHIP +-2% 1/16W 1K	
R314	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R315	ERJ3GEYG181V	MGF CHIP +-2% 1/16W 180	
R316	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R317	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R318	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R319	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R320	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R321	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R322	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R323	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R324	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R327	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R332	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R333	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		
R336	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R340	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R342	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R343	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R344	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R345	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R346	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R347	ERJ3GEYJ123X	MGF CHIP 1/16W 12K	
R348	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R349	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R350	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R351	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R352	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R353	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R355	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R356	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R357	ERJ3GEYJ474V	MGF CHIP 1/16W 470K	
R358	ERJ3GEYJ123X	MGF CHIP 1/16W 12K	
R359	ERJ3GEYJ123X	MGF CHIP 1/16W 12K	
R360	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
R361	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R362	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R363	ERJ3GEYJ123X	MGF CHIP 1/16W 12K	
R364	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R365	ERJ3GEYK225V	MGF CHIP +-10% 1/16W 2.2M	
R366	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name& Description	Remarks
R367	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R368	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R369	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R370	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R372	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R373	ERJ3GEYJ303V	MGF CHIP 1/16W 30K	
R374	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R375	ERJ3GEYJ333X	MGF CHIP 1/16W 33K	
R376	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R377	ERJ3GEYJ333X	MGF CHIP 1/16W 33K	
R378	ERJ3GEYJ333X	MGF CHIP 1/16W 33K	
R379	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R380	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R381	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R382	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R383	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R384	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R385	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R386	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R387	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R388	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R389	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R390	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R391	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R393	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R394	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R395	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R397	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R402	ERJ3GEYG472V	MGF CHIP +-2% 1/16W 4.7K	
R410	EXB24V331JX	CHIP ARRAY 330	
R411	EXB24V331JX	CHIP ARRAY 330	
R412	EXB24V331JX	CHIP ARRAY 330	
R413	EXB24V331JX	CHIP ARRAY 330	
R414	EXB24V331JX	CHIP ARRAY 330	
R415	EXB24V331JX	CHIP ARRAY 330	
R427	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R430	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R431	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R432	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R433	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R434	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R436	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R437	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R438	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R441	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
R450	EXB24V473JX	CHIP ARRAY 47K	
R451	EXB24V473JX	CHIP ARRAY 47K	
R452	EXB24V473JX	CHIP ARRAY 47K	
R453	EXB24V473JX	CHIP ARRAY 47K	
R454	EXB24V473JX	CHIP ARRAY 47K	
R455	EXB24V473JX	CHIP ARRAY 47K	
R462	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	

Ref. No.	Part No.	Part Name& Description	Remarks
R470	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R471	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R472	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R473	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R474	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R475	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R476	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R477	EXB24V473JX	CHIP ARRAY 47K	
R479	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R480	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R501	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R502	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R503	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R504	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R505	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R506	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R507	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R508	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R509	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
R510	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
R512	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
R513	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R516	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R517	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R522	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R523	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R524	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R525	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R526	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R527	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R528	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R529	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R530	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R531	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R532	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R533	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R534	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R535	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R536	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R537	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R538	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R539	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R540	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R541	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R542	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R543	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R544	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R545	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R546	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R548	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R549	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R550	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R551	ERJ3GEYJ101X	MGF CHIP 1/16W 100	

Ref. No.	Part No.	Part Name& Description	Remarks
R552	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R553	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R554	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R555	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R556	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R557	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R558	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R559	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R560	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R561	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R562	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R563	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R564	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R565	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R566	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R567	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R568	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R569	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R571	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R572	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R573	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
	(D)		
R574	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R575	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R576	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R577	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R578	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
	(D)		
R579	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(D)		
R580	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(D)		
R581	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(A,B,C)		
R582	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R583	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		
R585	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
	(D)		
R603	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R605	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
	(A,B,C)		
	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R608	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R609	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
	(A,B,C)		

Ref. No.	Part No.	Part Name& Description	Remarks
	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
	(D)		
R610	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R611	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R613	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		
R614	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R615	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R616	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
	(A,B,C)		
R617	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		
R618	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R619	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R620	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
	(A,B,C)		
R623	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R625	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R626	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R630	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R634	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
	(D)		
R635	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R639	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R641	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R643	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R644	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R645	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R646	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R650	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R653	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R654	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
	(A,B,C)		
R656	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R659	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R662	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R677	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R680	ERJ3GEYJ331X	MGF CHIP 1/16W 330	
R683	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R684	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R685	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(A,B,C)		
R686	ERJ3GEYJ392X	MGF CHIP 1/16W 3.9K	
	(D)		
R687	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		

Ref. No.	Part No.	Part Name& Description	Remarks
R689	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(A,B,C)		
R690	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R691	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R692	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R694	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R701	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R702	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R703	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R704	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R705	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R706	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R707	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R708	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R709	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R710	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R711	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R712	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R713	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R714	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R715	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R718	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R719	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R720	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R721	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R722	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R723	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R724	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R726	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R730	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R732	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R735	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R736	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	
R737	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R738	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R739	ERJ3GEYJ114V	MGF CHIP 1/16W 110K	
R740	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R744	ERJ8GEYJ3R9V	MGF CHIP 1/8W 3.9	
R745	ERJ8GEYJ3R9V	MGF CHIP 1/8W 3.9	
R746	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R747	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R748	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R749	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R750	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R751	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R752	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R754	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R755	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R1003	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R1004	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1006	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	

Ref. No.	Part No.	Part Name& Description	Remarks
R1007	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R1008	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1009	VRJSD3D1801	MGF CHIP +-0.5% 1/16W 1.8K	
R1010	VRJSD3D1801	MGF CHIP +-0.5% 1/16W 1.8K	
R1011	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R1012	VRJSD3D5101	MGF CHIP +-0.5% 1/16W 5.1K	
R1013	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1014	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1015	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R1016	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1017	ERJ3GEYJ333X	MGF CHIP 1/16W 33K	
R1019	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R1020	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R1021	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R1022	ERJ3GEYJ270V	MGF CHIP 1/16W 27	
R1023	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1024	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1025	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R1026	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R1027	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R1028	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R1029	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R1030	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R1031	VRJSD3D6801	MGF CHIP +-0.5% 1/16W 6.8K	
R1032	VRJSD3D2401	MGF CHIP +-0.5% 1/16W 2.4K	
R1033	VRJSD3D22R0	MGF CHIP +-0.5% 1/16W 22	
R1034	VRJSD3D5601	MGF CHIP +-0.5% 1/16W 5.6K	
R1035	VRJSD3D2701	MGF CHIP +-0.5% 1/16W 2.7K	
R1036	VRJSD3D68R0	MGF CHIP +-0.5% 1/16W 68	
R1037	VRJSD3D2702	MGF CHIP +-0.5% 1/16W 27K	
R1038	VRJSD3D1501	MGF CHIP +-0.5% 1/16W 1.5K	
R1039	VRJSD3D2401	MGF CHIP +-0.5% 1/16W 2.4K	
R1040	VRJSD3D6801	MGF CHIP +-0.5% 1/16W 6.8K	
R1041	VRJSD3D2201	MGF CHIP +-0.5% 1/16W 2.2K	
R1043	VRJSD3D1500V	MGF CHIP +-0.5% 1/16W 150	
R1044	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R1045	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R1046	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1047	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
	(A,B,C)		
	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
	(D)		
R1056	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1058	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R1059	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R1060	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R1061	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1062	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1064	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R1065	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
	(A,B)		
	ERJ3GEYJ392X	MGF CHIP 1/16W 3.9K	
	(C,D)		

Ref. No.	Part No.	Part Name& Description	Remarks
R1067	VRJSD3D1801	MGF CHIP +-0.5% 1/16W 1.8K	
R1068	VRJSD3D1801	MGF CHIP +-0.5% 1/16W 1.8K	
R1069	VRJSD3D33R0	MGF CHIP +-0.5% 1/16W 33	
R1073	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1075	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R1076	ERJ3GEYJ392X	MGF CHIP 1/16W 3.9K	
R1078	VRJSD3D1801	MGF CHIP +-0.5% 1/16W 1.8K	
R1079	VRJSD3D1801	MGF CHIP +-0.5% 1/16W 1.8K	
R1080	VRJSD3D33R0	MGF CHIP +-0.5% 1/16W 33	
R1101	ERJ8GEYJR56V	MGF CHIP 1/8W 0.56	
R1102	ERJ8GEYJR56V	MGF CHIP 1/8W 0.56	
R1103	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1104	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R1105	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R1106	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R1107	ERJ3GEYJ562X	MGF CHIP 1/16W 5.6K	
R1108	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R1109	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R1110	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1111	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1112	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R1113	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R1114	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R1601	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R1602	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R1603	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R1604	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(B)		
R1605	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(B)		
R1606	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
	(B)		
R2001	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R2003	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R2004	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R2008	ERJ8GEYJR33V	MGF CHIP 1/8W 0.33	
R2010	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R2011	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R2012	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R2013	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R2014	ERJ3GEYJ684V	MGF CHIP 1/16W 680K	
R2015	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R2016	ERJ3GEYJ684V	MGF CHIP 1/16W 680K	
R2021	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R2022	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2023	ERJ8GEYJR33V	MGF CHIP 1/8W 0.33	
R2025	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R2026	ERJ3GEYJ820V	MGF CHIP 1/16W 82	
R2027	ERJ3GEYJ471X	MGF CHIP 1/16W 470	
R2028	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R2029	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R2030	ERJ3GEYJ471X	MGF CHIP 1/16W 470	
R2031	ERJ3GEYJ101X	MGF CHIP 1/16W 100	

Ref. No.	Part No.	Part Name& Description	Remarks
R2032	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R3002	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R3003	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3004	ERJ3GEYJ270V	MGF CHIP 1/16W 27	
R3005	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3006	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R3008	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3009	ERJ3GEYJ392X	MGF CHIP 1/16W 3.9K	
R3010	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3011	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R3015	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R3016	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R3017	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R3018	ERJ3GEYJ471X	MGF CHIP 1/16W 470	
R3022	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R3023	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R3024	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3025	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R3026	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R3031	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R3032	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R3033	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3034	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R3035	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3036	ERJ3GEYJ471X	MGF CHIP 1/16W 470	
R3037	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R3038	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R3039	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R3040	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R3041	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R3044	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R3045	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R3048	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R3050	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R3129	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3130	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R3140	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3150	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3151	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R3152	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R3153	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R3154	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R3167	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R3169	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3173	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(C,D)		
R3174	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B)		
R3176	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R3180	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R3181	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R3182	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R3183	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	

Ref. No.	Part No.	Part Name& Description	Remarks
R3184	ERJ3GEYJ821X	MGF CHIP 1/16W 820	
R3185	ERJ3GEYJ182V	MGFCHIP 1/16W 1.8K	
R3186	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R3187	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3188	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3190	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R3191	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		
R3192	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(A,B,C)		
R3201	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
	(D)		
R3202	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
	(D)		
R3203	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R3206	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R3207	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R3208	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R3209	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
	(D)		
R3212	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
	(D)		
R4001	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R4002	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R4004	ERJ3GEYJ123X	MGF CHIP 1/16W 12K	
R4005	ERJ3GEYJ333X	MGF CHIP 1/16W 33K	
R4006	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R4007	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R4008	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R4009	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R4010	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4011	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R4012	ERJ3GEYJ163V	MGF CHIP 1/16W 16K	
R4013	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R4014	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R4015	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R4016	ERJ3GEYJ183X	MGF CHIP 1/16W 18K	
R4017	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R4018	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R4019	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R4020	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4021	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R4024	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R4025	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R4027	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R4029	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R4030	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R4031	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R4032	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R4033	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	

Ref. No.	Part No.	Part Name& Description	Remarks
R4034	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R4035	ERJ3GEYJ101X	MGF CHIP 1/16W 100	
R4037	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R4046	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R4060	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R4061	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R4062	ERJ3GEYJ333X	MGF CHIP 1/16W 33K	
R4063	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R4064	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
	(D)		
R4065	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
	(D)		
R6004	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R6006	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6007	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6008	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R6009	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6010	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6011	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6012	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
	(A,D)		
R6013	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
	(A,D)		
R6014	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6015	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6016	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6017	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6019	ERJ3GEYJ474V	MGF CHIP 1/16W 470K	
R6020	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6021	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6022	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R6023	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
	(D)		
R6024	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R6025	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6026	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6027	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R6028	ERJ3GEYJ332X	MGFCHIP 1/16W 3.3K	
R6029	ERJ3GEYJ332X	MGF CHIP 1/16W 3.3K	
R6030	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R6031	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R6034	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6037	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6038	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R6039	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6040	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R6041	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6042	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R6043	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6044	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6045	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R6046	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6047	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	

Ref. No.	Part No.	Part Name& Description	Remarks
R6048	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6049	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6050	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6051	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6052	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6053	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
	(D)		
R6054	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6056	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6058	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6060	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6061	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6062	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6063	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6064	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6066	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R6068	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6070	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R6072	ERJ3GEYJ392X	MGF CHIP 1/16W 3.9K	
R6073	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6074	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6075	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6077	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6079	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6080	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6081	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6082	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6083	ERJ3GEYJ681X	MGF CHIP 1/16W 680	
R6084	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R6085	ERJ3GEYJ561X	MGFCHIP 1/16W 560	
R6086	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R6087	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R6088	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R6089	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6090	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6091	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6092	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6093	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6094	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6095	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6096	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
R6097	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6098	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6099	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6100	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
	(A,D)		
R6101	ERJ3GEYJ104X	MGF CHIP 1/16W 100K	
	(B,C)		
R6102	VRJSD3D1802	MGF CHIP +-0.5% 1/16W 18K	
R6103	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R6104	VRJSD3D1002	MGF CHIP +-0.5% 1/16W 10K	
R6108	ERJ3GEYJ564V	MGF CHIP 1/16W 560K	
R6110	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6111	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	

Ref. No.	Part No.	Part Name& Description	Remarks
R6112	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6113	ERJ3GEYJ272X	MGF CHIP 1/16W 2.7K	
R6114	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R6115	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6116	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6119	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R6120	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6129	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6131	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R6132	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R6133	ERJ3GEYJ223X	MGF CHIP 1/16W 22K	
R6135	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●
R6143	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6144	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6145	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6146	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R6147	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R6148	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6149	ERJ3GEYJ472X	MGF CHIP 1/16W 4.7K	
R6152	ERJ3GEYJ473X	MGF CHIP 1/16W 47K	
R6162	ERJ3GEYJ102X	MGF CHIP 1/16W 1K	
R6191	ERJ3GEYJ222X	MGF CHIP 1/16W 2.2K	
R6201	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R6202	ERJ3GEYJ103X	MGF CHIP 1/16W 10K	
R6209	ERJ3GEYJ225V	MGF CHIP 1/16W 2.2M	
R6210	ERJ3GEYJ561X	MGF CHIP 1/16W 560	
R6215	ERJ3GEYJ132V	MGF CHIP 1/16W 1.3K	
R6217	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R6226	ERJ3GEY0R00X	MGF CHIP 1/16W 0	●

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C301	ECUV1H330JCV	C CHIP +-5% 50V 33P	
C302	ECUV1H560JCV	C CHIP +-5% 50V 56P	
C305	ECUV1H470JCV	C CHIP +-5% 50V 47P	
C306	ECST0JY106	TANTALUM CHIP 6.3V 10	
C307	ECUE1C104ZFV	CCHIP +80%-20% 16V 0.1	
C308	ECUV1H102KBV	C CHIP 50V 1000P	
	(D)		
C309	ECST0JY106	TANTALUM CHIP 6.3V 10	
C310	ECST1CY105	TANTALUM CHIP 16V 1	
C311	ECST1CY105	TANTALUM CHIP 16V 1	
C312	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C314	ECST0JY106	TANTALUM CHIP 6.3V 10	
C315	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C316	ECST0JY106	TANTALUM CHIP 6.3V 10	
C317	ECST0JY106	TANTALUM CHIP 6.3V 10	
C318	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C319	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C320	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C321	ECST0JX226	TANTALUM CHIP 6.3V 22	
C323	ECST0JY106	TANTALUM CHIP 6.3V 10	
C326	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C327	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C329	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C330	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22	
C337	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C338	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C339	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C340	ECUE1H103KBV	C CHIP 50V 0.01	
C341	ECUV1H102KBV	C CHIP 50V 1000P	
C342	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C345	ECUV1H471KBV	C CHIP 50V 470P	
C346	ECUV1H471KBV	C CHIP 50V 470P	
C350	ECST0JY106	TANTALUM CHIP 6.3V 10	
C351	ECST0JY106	TANTALUM CHIP 6.3V 10	
C353	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C354	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C355	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C356	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C357	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C358	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C402	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C406	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C501	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C502	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C503	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C504	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C505	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C506	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C507	ECUE1C104ZFV	CCHIP +80%-20% 16V 0.1	
C508	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C509	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C510	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	

Ref. No.	Part No.	Part Name& Description	Remarks
C511	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C512	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C513	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C514	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C515	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C519	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C521	ECST0JY106	TANTALUM CHIP 6.3V 10	
C522	ECUV1C104KBV	C CHIP 16V 0.1	
C523	ECUV1C104KBV	C CHIP 16V 0.1	
C524	ECUV1C104KBV	C CHIP 16V 0.1	
C525	ECUV1C104KBV	C CHIP 16V 0.1	
C526	ECST0JY106	TANTALUM CHIP 6.3V 10	
C527	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C528	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C529	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C530	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C531	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C532	ECUV1H040CCV	C CHIP +-0.25P 50V 4P	
	(D)		
C533	ECUV1H040CCV	C CHIP +-0.25P 50V 4P	
	(D)		
C534	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C535	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C604	ECUV1H150JCV	C CHIP +-5% 50V 15P	
	(A,B,C)		
C605	ECST0JX226	TANTALUM CHIP 6.3V 22	
C606	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C607	ECUV1H150JCV	C CHIP +-5% 50V 15P	
C610	ECRJA010A11B	TRIMMER CHIP 100V 10P	
	(A,B,C)		
C611	ECUV1H150JCV	C CHIP +-5% 50V 15P	
	(A,B,C)		
C613	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C614	ECUV1C474KBM	C CHIP 16V 0.47	
C615	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C616	ECUV1C104KBV	C CHIP 16V 0.1	
C617	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C618	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C623	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C633	ECST1CY225	TANTALUM CHIP 16V 2.2	
C634	ECST1CY225	TANTALUM CHIP 16V 2.2	
C636	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C638	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C639	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C640	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C641	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C642	ECST0JX226	TANTALUM CHIP 6.3V 22	
C643	ECST0JY106	TANTALUM CHIP 6.3V 10	
C644	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C645	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C646	ECST0JY106	TANTALUM CHIP 6.3V 10	

Ref. No.	Part No.	Part Name& Description	Remarks
C647	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C651	ECUV1H102KBV	C CHIP 50V 1000P	
	(A,B,C)		
C663	ECUV1H100DCV	C CHIP +-0.5P 50V 10P	
	(A,B,C)		
C701	ECUV1H392KBV	C CHIP 50V 3900P	
C702	ECUV1H392KBV	C CHIP 50V 3900P	
C703	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C704	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C706	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C707	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C708	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C709	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C1002	ECUV1E223KBV	C CHIP 25V 0.022	
C1003	ECUV1E223KBV	C CHIP 25V 0.022	
C1004	ECST1AY475N	TANTALUM CHIP 10V 4.7	
C1005	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C1006	VCUSTBC334KB	C CHIP 16V 0.33	
C1007	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C1008	ECUV1H331JCV	C CHIP +-5% 50V 330P	
C1009	ECUV1A105KBN	C CHIP 10V 1	
C1010	ECUV1E223KBV	C CHIP 25V 0.022	
C1011	ECUV1H472KBV	C CHIP 50V 4700P	
C1012	ECUV1H472KBV	C CHIP 50V 4700P	
C1014	ECUV1H221KBV	C CHIP 50V 220P	
C1015	ECUV1H221KBV	C CHIP 50V 220P	
C1016	ECUV1H221KBV	C CHIP 50V 220P	
C1017	ECUV1H221KBV	C CHIP 50V 220P	
C1018	ECUE1H103KBV	C CHIP 50V 0.01	
C1019	ECUE1H103KBV	C CHIP 50V 0.01	
C1020	VCUSQBC105KB	C CHIP 16V 1	
C1021	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C1022	VCUSQFC475MB	C CHIP +-20% 16V 4.7	
C1023	VCUSQAA335KB	C CHIP 10V 3.3	
C1025	ECUV1H471KBV	C CHIP 50V 470P	
C1026	VCUSQAC225KB	C CHIP 16V 2.2	
C1027	ECEV0GA470S	ELECTROLYTIC CHIP 4V 47	
C1028	ECUV1H221KBV	C CHIP 50V 220P	
C1029	VCUSQAC105KB	C CHIP 16V 1	
C1030	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1031	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C1032	VCUSQAC105KB	C CHIP 16V 1	
C1033	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1034	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1035	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1036	ECUV1H101JCV	C CHIP +-5% 50V 100P	
C1037	VCUSQAC105KB	C CHIP 16V 1	
C1038	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22	

Ref. No.	Part No.	Part Name& Description	Remarks
C1039	ECUV1H331KBV	C CHIP 50V 330P	
C1040	VCUSQAC105ZF	C CHIP +80%-20% 16V 1	
C1041	ECEV1CS100S	ELECTROLYTIC CHIP 16V 10	
C1042	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C1044	ECUV1A105KBN	C CHIP 10V 1	
C1045	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1046	VCUSQAC105KB	C CHIP 16V 1	
C1047	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C1050	ECUV1H222KBV	C CHIP 50V 2200P	
C1051	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C1053	ECUV1E104KBN	C CHIP 25V 0.1	
	(A,B)		
	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
	(C,D)		
C1054	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
	(A,B)		
C1055	ECUV1A105KBN	C CHIP 10V 1	
C1057	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1058	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C1059	ECST0JY106	TANTALUM CHIP 6.3V 10	
C1060	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1101	ECUV0J225KBN	C CHIP 6.3V 2.2	
C1102	ECUV1H102KBV	C CHIP 50V 1000P	
C1103	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2001	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2002	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2003	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2007	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22	
C2008	ECUV1E333KBN	C CHIP 25V 0.033	
C2010	ECUV1E683KBN	C CHIP 25V 0.068	
C2011	VCUSQAC334KB	C CHIP 16V 0.33	
C2012	ECUV1E473KBN	C CHIP 25V 0.047	
C2013	ECUV1E473KBN	C CHIP 25V 0.047	
C2015	ECUV1H152KBV	C CHIP 50V 1500P	
C2016	ECUV1H331KBV	C CHIP 50V 330P	
C2017	VCUSQAC105KB	C CHIP 16V 1	
C2021	ECUV1E473ZFV	C CHIP +80%-20% 25V 0.047	
C2022	ECUV1E473ZFN	C CHIP +80%-20% 25V 0.047	
C2023	ECUV1C104KBV	C CHIP 16V 0.1	
C2024	VCUSQAC105KB	C CHIP 16V 1	
C2025	ECUV1E103KBN	C CHIP 25V 0.01	
C2030	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2031	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2032	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C2040	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3001	VCUSQAA335KB	C CHIP 10V 3.3	
C3002	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3003	ECST0JX226	TANTALUM CHIP 6.3V 22	
C3005	ECUV1H220JCV	C CHIP +-5% 50V 22P	

Ref. No.	Part No.	Part Name& Description	Remarks
C3006	ECUV1H332KBV	C CHIP 50V 3300P	
C3007	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C3008	ECUE1H103KBV	C CHIP 50V 0.01	
C3009	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C3010	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3011	ECUV1H221JCV	C CHIP +-5% 50V 220P	
C3012	ECUV1H821KBV	C CHIP 50V 820P	
C3013	ECUV1H560JCV	C CHIP +-5% 50V 56P	
C3014	ECUV1H331JCV	C CHIP +-5% 50V 330P	
C3015	ECUV1H561JCV	C CHIP +-5% 50V 560P	
C3017	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3018	MCUV1E104KBN	C CHIP 25V 0.1	
C3019	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3021	ECST0JX226	TANTALUM CHIP 6.3V 22	
C3023	ECUV1E473KBN	C CHIP 25V 0.047	
C3024	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C3025	ECUE1H103KBV	C CHIP 50V 0.01	
C3028	ECUE1H103KBV	C CHIP 50V 0.01	
C3029	ECUE1H103KBV	C CHIP 50V 0.01	
C3030	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3031	ECUV1C224KBN	C CHIP 16V 0.22	
C3032	ECUV1H332KBV	C CHIP 50V 3300P	
C3033	ECST1CY225	TANTALUM CHIP 16V 2.2	
C3034	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C3036	ECST1AY475N	TANTALUM CHIP 10V 4.7	
C3038	ECUV1H560JCV	C CHIP +-5% 50V 56P	
C3039	ECUV1H150JCV	C CHIP +-5% 50V 15P	
C3040	ECUV1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3042	ECST0JX226	TANTALUM CHIP 6.3V 22	
C3043	ECST0JX226	TANTALUM CHIP 6.3V 22	
C3045	ECST0JY335	TANTALUM CHIP 6.3V 3.3	
C3046	ECEV0GA221S	ELECTROLYTIC CHIP 4V 220	
C3047	VCUSQBA105KB	C CHIP 10V 1	
C3048	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3053	ECUV1H390JCV	C CHIP +-5% 50V 39P	
C3054	ECUV1H101JCV	C CHIP +-5% 50V 100P	
C3055	ECUV1H181JCV	C CHIP +-5% 50V 180P	
C3057	ECUV1H180JCV	C CHIP +-5% 50V 18P	
C3058	ECUV1H120JCV	C CHIP +-5% 50V 12P	
C3059	ECUV1H100DCV	C CHIP +-0.5P 50V 10P	
C3060	ECUV1H120JCV	C CHIP +-5% 50V 12P	
C3061	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3068	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3070	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C3072	ECUE1H103KBV	C CHIP 50V 0.01	
C3073	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C3074	ECST0JX226	TANTALUM CHIP 6.3V 22	
C3075	ECUE1H103KBV	C CHIP 50V 0.01	
C3077	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	

Ref. No.	Part No.	Part Name& Description	Remarks
C3078	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3079	ECUV1H102KBV	C CHIP 50V 1000P	
C3080	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3081	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3085	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3098	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3107	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3132	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C3135	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3139	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3150	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C3152	ECUV1H681KBV	C CHIP 50V 680P	
C3153	ECUV1H681KBV	C CHIP 50V 680P	
C3157	ECUV1H103ZFV	C CHIP +80%-20% 50V 0.01	
	(D)		
C4002	ECST0JX226	TANTALUM CHIP 6.3V 22	
C4004	ECST0JY106	TANTALUM CHIP 6.3V 10	
C4005	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22	
C4006	ECST0JX226	TANTALUM CHIP 6.3V 22	
C4007	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C4008	ECUV1E273KBN	C CHIP 25V 0.027	
C4009	ECUV1H822KBV	C CHIP 50V 8200P	
C4010	ECUV1H221KBV	C CHIP 50V 220P	
C4011	ECST1CY105	TANTALUM CHIP 16V 1	
C4012	ECUV1H152KBV	C CHIP 50V 1500P	
C4013	ECUV1H222KBV	C CHIP 50V 2200P	
C4015	VCUSQBA105KB	C CHIP 10V 1	
C4016	ECEV1HA3R3S	ELECTROLYTIC CHIP 50V 3.3	
C4017	ECST0JX226	TANTALUM CHIP 6.3V 22	
C4018	ECUV1H103KBN	C CHIP 50V 0.01	
C4019	ECST1AY475N	TANTALUM CHIP 10V 4.7	
C4020	ECUV1H470JCV	C CHIP +-5% 50V 47P	
C4021	ECUV1H102KBV	C CHIP 50V 1000P	
C4022	ECUT2A472JCW	C CHIP +-5% 100V 4700P	
C4023	ECUV1H682KBN	C CHIP 50V 6800P	
C4024	ECUV1E223KBV	C CHIP 25V 0.022	
C4025	VCUSQBA105KB	C CHIP 10V 1	
C4026	ECST0JX226	TANTALUM CHIP 6.3V 22	
C4027	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C4041	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C4043	VCUSQBA105KB	C CHIP 10V 1	
	(D)		
C6001	ECUV1H330JCV	C CHIP +-5% 50V 33P	
C6002	ECUV1C224KBN	C CHIP 16V 0.22	
C6004	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C6006	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C6007	ECUV1H120JCV	C CHIP +-5% 50V 12P	
C6008	ECUV1H100DCV	C CHIP +-0.5P 50V 10P	
C6009	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C6011	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	

Ref. No.	Part No.	Part Name& Description	Remarks
C6013	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6014	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C6017	ECUV1E104KBN	C CHIP 25V 0.1	
C6018	ECUV1A105KBN	C CHIP 10V 1	
C6020	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C6022	ECUE1H103ZFV	C CHIP +80%-20% 50V 0.01	
C6023	ECUV1H102KBV	C CHIP 50V 1000P	
C6025	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C6028	ECUV1H0R5CCV	C CHIP +-0.25P 50V 0.5P	
C6029	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C6031	ECUE1H103KBV	C CHIP 50V 0.01	
C6032	ECUE1H103KBV	C CHIP 50V 0.01	
C6044	ECUE1C104ZFV	C CHIP +80%-20% 16V 0.1	
C6201	ECUV1C104KBV	C CHIP 16V 0.1	
C6202	ECUV1C104KBV	C CHIP 16V 0.1	
C6207	ECUE1H121JCV	C CHIP +-5% 50V 120P	
C6208	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C6214	ECUV1H102KBV	C CHIP 50V 1000P	
C6220	TCUV1C155ZFM	C CHIP +80%-20% 16V 1.5	
C6221	ECUV1H392KBV	C CHIP 50V 3900P	
C6222	VCUSQAC105KB	C CHIP 16V 1	
C6223	ECST0JX226	TANTALUM CHIP 6.3V 22	
C6225	ECUV1H102KBV	C CHIP 50V 1000P	

FILTERS

Ref. No.	Part No.	Part Name& Description	Remarks
FL3001	VLFW0041		

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L302	VLQ0163K470	CHIP 47	
L303	VLQ0163K330	CHIP 33	
L304	ELJFA150KF2	15	
L305	VLQ0426J3R9	CHIP 3.9	
L307	ELJFA101KF2	CHIP 100	
L308	VLQ0319K100	CHIP 10	
L310	VLQ0319M4R7	CHIP	
L312	ELJFA101KF2	CHIP 100	
L313	VLQ0163K181	CHIP 180	
L503	BK1608HM102	FERRITE CORE	
L504	BK1608HM102	FERRITE CORE	
L505	BK1608HM102	FERRITE CORE	
L506	VLQ0163K150	CHIP 15	
L601	VLQ0163K470	CHIP 47	
L602	VLQ0426J150	CHIP +-5% 15	
L605	VLQ0163K150	CHIP 15	
L1001	NP05DA100M	+-20% 10	
L1002	NP05DA100M	+-20% 10	
L1003	NP05DA330M	+-20% 33	
L1004	NP05DA330M	+-20% 33	
L1005	N05DA100K	10	
L1006	VLQ0319K100	CHIP 10	
L1007	VLJW3TC100KT	CHIP 10	
L1008	N05DA100K	10	
L1009	VLQ0426J470	CHIP +-5% 47	
L1010	VLQ0426J470	CHIP +-5% 47	
L1011	VLQ0426J470	CHIP +-5% 47	
L1012	VLQ0319K100	CHIP 10	
L1013	VLQ0319K101	CHIP 100	
L1014	LSLJCMA4R7MF	CHIP +-20% 4.7	
L1015	LSLJDJA100KF	CHIP 10	
L1016	VLQ0319K100	CHIP 10	
L3001	VLJW3TC470KT	CHIP 47	
L3002	VLJW3TC470KT	CHIP 47	
L3003	VLJW3TC470KT	CHIP 47	
L3004	VLJW3TC470KT	CHIP 47	
L3006	VLJW3TC470KT	CHIP 47	
L3009	VLQ0426J820	CHIP +-5% 82	
L3011	VLQ0426J470	CHIP +-5% 47	
L3012	VLQ0426J120	CHIP +-5% 12	
L3013	VLQ0163J331	CHIP +-5% 330	
L3014	VLQ0426J180	CHIP +-5% 18	
L3015	VLQ0163J331	CHIP +-5% 330	
L3016	VLQ0426J470	CHIP +-5% 47	
L3017	VLQ0163J331	CHIP +-5% 330	
L3030	VLJW3TC470KT	CHIP 47	
L4001	VLQ0319K221	CHIP 220	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name& Description	Remarks
X501	LSSX0042		
	(D)		
X601	VSXW0096		
	(A,B,C)		
X3001	VSXW0080		
X6001	VSXW0093		
X6002	LSSX0030		

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
B2	VJPW0262	BOARD TO BOARD 18P	
P2	VJPW0242	CONNECTOR 13P	
P3	VJPW0254	CONNECTOR 5P	
	(A,C,D)		
	VJPW0255	CONNECTOR 12P	
	(B)		
P38	VJPW0264	CONNECTOR 3P	
	(A,B,C)		
	LSJP03AE009	CONNECTOR 9P	
	(D)		

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP1	LSJSRF28DGA	CONNECTOR 28P	
FP3	LSJSQG26DG	CONNECTOR 26P	
FP4	VJPW501MP06	CONNECTOR 6P	
FP6	LSJS01EC039	CONNECTOR 39P	
FP7	VJPW501MP14	CONNECTOR 14P	
FP8	VJPW501MP12	CONNECTOR 12P	
FP9	VJPW501MP20	CONNECTOR 20P	
FP11	LSJSQG13DG	CONNECTOR 13P	
FP13	VJPW501MP42	CONNECTOR 42P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
F1001	LSSF008C30T	FUSE CHIP 32V 3A	⚠
	OR VSFW0011	FUSE CHIP 32V 3A	⚠
F1002	LSSF008F15T	FUSE CHIP 63V 1.5A	⚠
	OR VSFW0010	FUSE CHIP 63V 1.5A	⚠
F1003	LSSF008F15T	FUSE CHIP 63V 1.5A	⚠
	OR VSFW0010	FUSE CHIP 63V 1.5A	⚠
	(D)		

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T1001	VTPW0003A		
T1002	VTPW0004		
T4001	EQQ6QT001T		

12.3.2. PC JACK C.B.A. ■

JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK1	LSJJ0137	MINI JACK SOCKET	

12.3.3. TV TUNER JACK C.B.A. (D) ■

JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK7001	LSJS0099	TV TUNER JACK SOCKET	

12.3.4. CCD C.B.A. (A,B,C) ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC601	MN371132FT-M	IC, CCD	E.S.D.

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q601	2SC3931	CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R601	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R602	ERJ8GEYJ470V	MGF CHIP 1/8W 47	
R661	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C603	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C664	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E16	VMDW0430	CCD SURFACE PLATE,POLYESTER	

12.3.5. CCD C.B.A. (D) ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC601	MN37241FT	IC, CCD	E.S.D.

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q601	2SC3931	CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R601	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R602	ERJ8GEYJ470V	MGF CHIP 1/8W 47	
R661	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C603	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C664	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E16	VMDW0515	CCD SURFACE PLATE,POLYESTER	

12.3.6. ELECTRONIC VIEWFINDER C.B.A. (A,C,D) ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC901	AN2515NS	IC, LINEAR EVF DRIVE	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q901	2SD968A(S)	CHIP	⚠
Q902	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D901	SFPL-52V	CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R901	ERJ3GEYJ4R7V	MGF CHIP 1/16W 4.7	
R902	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R903	VRJSD3D1302V	MGF CHIP +-0.5% 1/16W 13K	
R904	VRJSD3D1203V	MGF CHIP +-0.5% 1/16W 120K	
R905	ERJ3GEYJ514V	MGF CHIP 1/16W 510K	
R906	ERJ3GEYJ242V	MGF CHIP 1/16W 2.4K	
R907	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R908	VRJSD3D3302	MGF CHIP +-0.5% 1/16W 33K	
R911	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R912	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R913	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R914	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R915	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R916	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R917	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R918	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R919	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R920	ERJ6GEYJ105V	MGF CHIP 1/10W 1M	
R921	ERJ6GEYJ106V	MGF CHIP 1/10W 10M	
R922	ERJ6GEYJ106V	MGF CHIP 1/10W 10M	
R923	ERJ6GEYJ185V	MGF CHIP 1/10W 1.8M	
R925	ERJ6GEYJ684V	MGF CHIP 1/10W 680K	
R926	ERJ6GEYJ225V	MGF CHIP 1/10W 2.2M	
R927	ERJ6GEYJ185V	MGF CHIP 1/10W 1.8M	
R929	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
VR901	EVM7JSX30BE2	VARIABLE CHIP 220	
VR902	VRVW0028	VARIABLE CHIP 5M	
VR903	EVM7ESX30B26	VARIABLE CHIP 2M	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C902	ECUV1H123KBV	C CHIP 50V 0.012	
C903	VCUSQBA105KB	C CHIP 10V 1	
C904	EEAFC0J101H	ELECTROLYTIC 6.3V 100	
C905	VCUSQBA105KB	C CHIP 10V 1	
C906	ECQV1H104JM	POLTESTER +-5% 50V 0.1	
C907	ECUV1C104KBV	C CHIP 16V 0.1	
C908	EEAFC0J101H	ELECTROLYTIC 6.3V 100	
C909	ECUV1H151JCV	C CHIP +-5% 50V 150P	
C910	MCUV2A332JUM	C CHIP +-5% 100V 3300P	⚠
C911	EEAFC0J470H	ELECTROLYTIC 6.3V 47	
C912	EEAFC1C470H	ELECTROLYTIC 16V 47	
C913	ECUV1C104KBV	C CHIP 16V 0.1	
C914	ECUV1C104KBV	C CHIP 16V 0.1	
C915	DE405B151K1K	CERAMIC 1KV 150P	⚠
C916	ECEA1HKS010	ELECTROLYTIC 50V 1	
C917	ECKD2H331KB5	CERAMIC 500V 330P	⚠

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L901	VLQ0319K330	CHIP 33	
L902	VLQ0426J220	CHIP +-5% 22	
L903	ELH5L3105	LINEALITY	⚠

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P902	VJPW0254	CONNECTOR 5P	
P903	VJPW0004N1	CONNECTOR 4P	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP901	VJPW501MP06	CONNECTOR 6P	

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T901	ETF08L204A		⚠

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E18	VEKW1639	CRT SOCKET UNIT	
E27	ELY05V583A1	DEFLECTION YOKE	⚠
E33	M01LSX07WB01	CRT	⚠
E34	VMZW0606	INSULATION SHEET,PLASTIC	
E37	LSEK0375	EVF CABLE W/PLUG,DC5V	

12.3.7. COLOR ELECTRONIC VIEWFINDER A C.B.A. (B) ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC901	AN2536FHQ	IC, LINEAR EVF DRIVE	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q902	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q903	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q904	IMX1T108	COMPLX CMP SI NPN CHIP	
	OR XN4501	COMPLX CMP SI NPN CHIP	
Q905	2SA1037K146R	CHIP	
	OR 2SB709A	CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D901	MA8033-H	ZENER CHIP 3.3V	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R901	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R902	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R903	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R904	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R905	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R906	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R907	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R908	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R909	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R910	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R911	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R912	ERJ3GEYJ113V	MGF CHIP 1/16W 11K	
R913	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R915	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R916	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R917	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R918	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R919	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R920	VRJSD3D2702	MGF CHIP +-0.5% 1/16W 27K	
R921	VRJSD3D4701	MGF CHIP +-0.5% 1/16W 4.7K	
R922	VRJSD3D2202	MGF CHIP +-0.5% 1/16W 22K	
R928	VRJSD3D1802	MGF CHIP +-0.5% 1/16W 18K	
R929	VRJSD3D1102	MGF CHIP +-0.5% 1/16W 11K	
R930	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R931	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R935	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R936	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R938	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R939	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R942	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C905	ECEV1EA4R7S	ELECTROLYTIC CHIP 25V 4.7	
C908	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C910	ECUV1H152KBV	C CHIP 50V 1500P	
C911	ECUV1A105ZFV	C CHIP +80%-20% 10V 1	
C912	NMA0J226MTR	ELECTROLYTIC CHIP 6.3V 22	
C913	ECUV1C104KBV	C CHIP 16V 0.1	
C914	ECUV1C104KBV	C CHIP 16V 0.1	
C915	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C916	ECUV1H152KBV	C CHIP 50V 1500P	
C917	ECST0JY475	TANTALUM CHIP 6.3V 4.7	
C918	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C919	ECUV1C104KBV	C CHIP 16V 0.1	
C920	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C922	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C923	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C924	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C925	ECUV1C104KBV	C CHIP 16V 0.1	
C926	VCUSQAC225KB	C CHIP 16V 2.2	
C927	ECUV1C104KBN	C CHIP 16V 0.1	
C931	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C933	ECUV1C104KBV	C CHIP 16V 0.1	
C934	VCUSQBC105KB	C CHIP 16V 1	
C935	VCUSQBA105KB	C CHIP 10V 1	
C936	ECUV1H103KBV	C CHIP 50V 0.01	
C937	MCUV1E104KBN	C CHIP 25V 0.1	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L902	VLQ0426J150	CHIP +-5% 15	
L903	VLQ0319K100	CHIP 10	
L905	VLQ0426J150	CHIP +-5% 15	

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P901	VJPW0255	CONNECTOR 12P	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP901	VJPW501MP06	CONNECTOR 6P	
FP902	VJPW501MP16	CONNECTOR 16P	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E36	VEKW1781	EVF CABLE W/PLUG,DC15V	

12.3.8. COLOR ELECTRONIC VIEWFINDER B C.B.A. (B) ■

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q901	2SK1299STL	F.E.T.	⚠

CAPACITORS

Ref. No.	Part No.	Part Name&Description	Remarks
C903	VCUSQFA106KB	C CHIP 10V 10	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L901	SLF6028T101M	CHOKE +-20% 100	⚠

LAMP

Ref. No.	Part No.	Part Name& Description	Remarks
PL901	VLLW0010	LCD LAMP	⚠
	OR VLLW0011	LCD LAMP	⚠

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T901	ETJ09K30AM		⚠
	OR VLTW0044		⚠

12.3.9. LIQUID CRYSTAL DISPLAY C.B.A. ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC1201	BA9746FV-E2	IC, LINEAR POWER CONTROL	
IC9001	AN2545FHQ	IC, LINEAR RGB SIGNAL PROCESS	
IC9002	TA75S558F85L	IC, LINEAR OP.AMP.	
IC9003	M52684BFP	IC, LINEAR V/H SYNC SEPARATION	
	(D)		
IC9004	TC7W04FTE12L	IC, CMOS STANDARD LOGIC INVERTER	E.S.D.
	(D)		

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q1202	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1203	DTA124EU	CHIP	
	OR UN5112	CHIP	
Q1204	DTA124EU	CHIP	
	OR UN5112	CHIP	
Q1205	DTA124EU	CHIP	
	OR UN5112	CHIP	
Q1206	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1207	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q1208	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1209	IMX1T108	COMPLX CMP SI NPN CHIP	
	OR XN4501	COMPLX CMP SI NPN CHIP	
Q1210	2SB1073	CHIP	
	OR 2SB1386T100Q	CHIP	
	OR 2SB1386T100R	CHIP	
Q1211	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1212	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1213	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q1214	2SK1958	F.E.T. CHIP	
Q1215	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q1216	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q1217	CPH3215-TL	CHIP	
Q1218	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q1219	IMX1T108	COMPLX CMPSI NPN CHIP	
	OR XN4501	COMPLX CMP SI NPN CHIP	
Q1220	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q1221	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1222	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q9001	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q9002	DTA114YU	COMPLX CMP SI NPN/PNP CHIP	
	OR UN5114	COMPLX CMP SI NPN/PNP CHIP	
Q9101	2SD1119	CHIP	⚠
	OR 2SD2150T100R	CHIP	⚠
Q9102	2SD1119	CHIP	⚠
	OR 2SD2150T100R	CHIP	⚠

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D1201	DAN202UT	CHIP	
	OR MA142WK	CHIP	
D1203	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1204	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1205	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D1206	MA8068-M	ZENER CHIP 6.8V	
D9001	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D9002	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D9003	MA111	CHIP	
	OR 1SS355TE-17	CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R1203	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R1204	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R1205	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1206	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1207	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R1208	ERJ3GEYJ824V	MGF CHIP 1/16W 820K	
R1209	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1210	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1211	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1212	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1213	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1214	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1215	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1216	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1217	VRJSD3D1002	MGF CHIP +-0.5% 1/16W 10K	
R1218	VRJSD3D1002	MGF CHIP +-0.5% 1/16W 10K	
R1219	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R1220	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1221	VRJSD3D1002	MGF CHIP +-0.5% 1/16W 10K	
R1222	VRJSD3D3302	MGF CHIP +-0.5% 1/16W 33K	
R1223	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1224	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R1225	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1226	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R1227	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1228	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1229	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	

Ref. No.	Part No.	Part Name& Description	Remarks
R1230	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R1231	VRJSD3D2702	MGF CHIP +-0.5% 1/16W 27K	
R1232	VRJSD3D3001	MGF CHIP +-0.5% 1/16W 3K	
R1233	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R1234	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R1235	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R1237	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R1238	VRJSD3D3301	MGF CHIP +-0.5% 1/16W 3.3K	
R1239	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
	(A,B,C)		
	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
	(D)		
R1240	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1241	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1242	VRJSD3D4702	MGF CHIP +-0.5% 1/16W 47K	
R1243	VRJSD3D3302	MGF CHIP +-0.5% 1/16W 33K	
R1244	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R1245	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R1246	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1247	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1248	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1249	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R1250	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R9001	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R9003	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R9004	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9005	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9007	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9008	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9009	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9011	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9012	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9013	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
	(A,B,C)		
R9014	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R9015	ERJ3GEYJ123X	MGF CHIP 1/16W 12K	
R9016	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9017	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R9018	ERJ3GEY0R00V	MGFCHIP 1/16W 0	●
R9019	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R9020	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9021	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9022	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9023	ERJ3GEYJ303V	MGF CHIP 1/16W 30K	
R9024	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R9025	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R9026	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9027	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9028	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R9029	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9030	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

Ref. No.	Part No.	Part Name& Description	Remarks
R9031	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9032	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R9033	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R9037	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
	(D)		
R9038	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
	(D)		
R9039	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
	(D)		
R9040	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
	(D)		
R9041	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
	(D)		
R9045	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
	(D)		
R9046	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
	(D)		
R9048	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
	(D)		
R9049	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
	(D)		
R9050	ERJ3GEYJ302V	MGF CHIP 1/16W 3K	
	(D)		
R9051	ERJ3GEYJ302V	MGF CHIP 1/16W 3K	
	(D)		
R9052	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
	(D)		
R9053	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R9054	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
	(A,B,C)		
R9055	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
	(D)		
R9101	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9102	ERJ8GEY0R00V	MGF CHIP 1/8W 0	●
VR9001	VRVW0024	VARIABLE 10K	
	(A,B,C)		
	VRVW0026	VARIABLE 10K	
	(D)		

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C1201	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C1202	ECUV1C104KBV	C CHIP 16V 0.1	
C1203	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C1204	ECUV1A105KBN	C CHIP 10V 1	
C1205	ECUV1C104KBN	C CHIP 16V 0.1	
C1206	ECUV1H102KBV	C CHIP 50V 1000P	
C1207	ECST0JY106	TANTALUM CHIP 6.3V 10	
C1208	ECUV1H102KBV	C CHIP 50V 1000P	
C1209	ECUV1C224KBN	C CHIP 16V 0.22	
C1210	ECUV1A105KBN	C CHIP 10V 1	
C1211	ECUV0J225KBN	C CHIP 6.3V 2.2	
C1212	VCUSJEA224KB	C CHIP 10V 0.22	
C1213	ECUV1A105ZFV	C CHIP +80%-20% 10V 1	
C1214	ECUV1H101JCV	C CHIP +-5% 50V 100P	
C1216	ECUV1H472KBV	C CHIP 50V 4700P	
C1217	ECUE1H121JCV	C CHIP +-5% 50V 120P	
C1218	VCUSQAC225KB	C CHIP 16V 2.2	
C1219	VCUSQAC105KB	C CHIP 16V 1	
C1220	VCUSQBC105KB	C CHIP 16V 1	
C1221	ECUV1A105KBN	C CHIP 10V 1	
	(A,B,C)		
	ECUV0J225KBN	C CHIP 6.3V 2.2	
	(D)		
C1223	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C1224	ECUV1E105KBM	C CHIP 25V 1	
C1225	VCUSQAE105ZF	C CHIP +80%-20% 25V 1	
C1226	ECUV1C104KBN	C CHIP 16V 0.1	
C1227	ECUV1C104KBN	C CHIP 16V 0.1	
C1228	ECUV1E103KBV	C CHIP 25V 0.01	
C9003	ECST0JX226	TANTALUM CHIP 6.3V 22	
	(A,B,C)		
C9005	ECST0JY106	TANTALUM CHIP 6.3V 10	
C9007	ECUV1C104KBV	C CHIP 16V 0.1	
C9008	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C9009	NMA0J226MTR	ELECTROLYTIC CHIP 6.3V 22	
C9010	ECUV1H681KBV	C CHIP 50V 680P	
	(A,B,C)		
C9011	ECUV1C104KBV	C CHIP 16V 0.1	
C9012	ECUV1C104KBV	C CHIP 16V 0.1	
C9013	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C9014	ECUV1H152KBV	C CHIP 50V 1500P	
C9015	ECST0JY475	TANTALUM CHIP 6.3V 4.7	
C9016	NMA0J226MTR	ELECTROLYTIC CHIP 6.3V 22	
C9017	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C9018	ECUV1C104KBV	C CHIP 16V 0.1	
C9019	ECST1CX106	TANTALUM CHIP 16V 10	
C9020	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C9021	VCUSJBJ225KB	C CHIP 6.3V 2.2	

Ref. No.	Part No.	Part Name& Description	Remarks
C9022	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C9023	ECST1DX106R	TANTALUM CHIP 20V 10	
C9024	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C9025	ECUV1H151JCV	C CHIP +-5% 50V 150P	
C9026	VCUSJBJ225KB	C CHIP 6.3V 2.2	
C9027	ECUV1C104KBV	C CHIP 16V 0.1	
C9028	VCUSQBC105KB	C CHIP 16V 1	
C9029	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C9030	ECST0JY106	TANTALUM CHIP 6.3V 10	
C9031	ECST0JY106	TANTALUM CHIP 6.3V 10	
C9032	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C9033	ECST0JX226	TANTALUM CHIP 6.3V 22	
	(D)		
C9035	VCUSQBA105KB	C CHIP 10V 1	
	(D)		
C9037	ECUV1H152KBV	C CHIP 50V 1500P	
	(D)		
C9038	ECUV1H270JCV	C CHIP +-5% 50V 27P	
	(D)		
C9039	ECUV1H103ZFV	C CHIP +80%-20% 50V 0.01	
	(D)		
C9040	ECUV1E273ZFV	C CHIP +80%-20% 25V 0.027	
	(D)		
C9041	VCUSQBA105KB	C CHIP 10V 1	
	(D)		
C9042	ECUV1H102KBV	C CHIP 50V 1000P	
	(D)		
C9043	ECUV1E103KBV	C CHIP 25V 0.01	
	(D)		
C9044	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
C9046	ECUV1H102KBV	C CHIP 50V 1000P	
	(D)		
C9047	ECUV1C104ZFV	C CHIP +80%-20% 16V 0.1	
	(D)		
C9048	ECUV1C104KBV	C CHIP 16V 0.1	
	(D)		
C9049	ECUV1C104KBV	C CHIP 16V 0.1	
	(D)		
C9050	ECUV1H103ZFV	C CHIP +80%-20% 50V 0.01	
	(D)		
C9101	EEFCD0J220R	TANTALUM CHIP 6.3V 22	
C9102	ECHU1H393JB5	C CHIP +-5% 50V 0.039	
C9103	VCCW0008	C CHIP	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L1201	VLQ0319K100	CHIP 10	
L1202	NP05DB100M	+-20% 10	
L1203	VLJW3TC100KT	CHIP 10	
L1204	VLQ0426J470	CHIP +-5% 47	
L1205	VLQ0426J470	CHIP +-5% 47	
L1206	VLQ0426J470	CHIP +-5% 47	
	(A,B,C)		
	VLQ0426J150	CHIP +-5% 15	
	(D)		
L1207	VLQ0426J150	CHIP +-5% 15	
L9001	VLQ0464K150	CHIP 15	
L9002	VLQ0464K150	CHIP 15	
L9003	VLQ0163J150	CHIP +-5% 15	
L9004	VLQ0464K150	CHIP 15	
L9005	VLQ0426J150	CHIP +-5% 15	
L9006	VLQ0464K150	CHIP 15	
L9007	VLQ0426J150	CHIP +-5% 15	
L9008	VLQ0464K150	CHIP 15	
	(D)		
L9101	SLF6028T680M	CHOKE +-20% 68	⚠

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name& Description	Remarks
X9001	LSSX0031		
	(D)		

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP1201	LSJS01EC021	CONNECTOR 21P	
FP9001	LSJSQG24DG	CONNECTOR 24P	

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T1202	LSTP0094		
T9101	LSLT0030		⚠

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
E44	VMZW0650	INSULATION SHEET,PLASTIC	

12.3.10. RELAY C.B.A. ■

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P9001	VJPW0242	CONNECTOR 13P	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP9002	LSJSQG18DG	CONNECTOR 18P	

12.3.11. ELECTRICAL PARTS LOCATED ON CHASSIS

Ref. No.	Part No.	Part Name& Description	Remarks
IC3501	AN3365SB-E1	IC, LINEAR HEAD AMP	
	(A,B)		
IC3501	AN3368SB-E1	IC, LINEAR HEAD AMP	
	(C,D)		
E6	LSEQ0540	MECHANISM FLEXIBLE PRINTED CIRCUIT UNIT	
E22	VJBW1626F	CYLINDER CABLE W/OUT PLUG,DC5V	
E41	VULS0001	LAMP KIT	⚠
E46	VEKW1791	PC JACK CABLE W/PLUG	
	(A,B,C)		
E46	LSEK0363	PC/TV TUNER JACK CABLE W/ PLUG	
	(D)		
E47	LSLP0064	FERRITE CORE	
	(D)		
E48	LSMA0417	FIXING ANGLE	
	(D)		
E49	XQN2+BF3FXK	SCREW,STEEL	
	(D)		
E64	VEKW1782	LCD CABLE W/PLUG,DC5V	

12.3.12. SUMMARY OF "E" ITEM NUMBERS

REFER TO ELECTRICAL PARTS LIST FOR MODEL INFORMATION

Ref. No.	Part No.	Part Name& Description	Remarks
E1	LSEP8026A1	MAIN C.B.A.	RTL
E1	LSEP8026F1	MAIN C.B.A.	RTL
E1	LSEP8026E1	MAIN C.B.A.	RTL
E1	LSEP8026B1	MAIN C.B.A.	RTL
E2	LSEQ0548	CCD C.B.A.	RTL
E2	LSEQ0571	CCD C.B.A.	RTL
E3	LSEQ0558	ELECTRONIC VIEWFINDER C.B.A.	RTL
E4	LSEP8035A1	COLOR ELECTRONIC VIEWFINDER A C.B.A.	RTL
E5	VEPW1671A1	COLOR ELECTRONIC VIEWFINDER B C.B.A.	RTL
E6	LSEQ0540	MECHANISM FLEXIBLE PRINTED CIRCUIT UNIT	
E8	LSEP8050A1	PC JACK C.B.A.	RTL
E9	LSEP8051A1	TV TUNER JACK C.B.A.	RTL
E16	VMDW0430	CCD SURFACE PLATE,POLYESTER	
E16	VMDW0515	CCD SURFACE PLATE,POLYESTER	
E18	VEKW1639	CRT SOCKET UNIT	
E22	VJBW1626F	CYLINDER CABLE W/OUT PLUG,DC5V	
E27	ELY05V583A1	DEFLECTION YOKE	⚠
E33	M01LSX07WB01	CRT	⚠

Ref. No.	Part No.	Part Name& Description	Remarks
E34	VMZW0606	INSULATION SHEET,PLASTIC	
E37	LSEK0375	EVF CABLE W/PLUG,DC5V	
E36	VEKW1781	EVF CABLE W/PLUG,DC15V	
E41	VULS0001	LAMP KIT	⚠
E44	VMZW0650	INSULATION SHEET,PLASTIC	
E46	VEKW1791	PC JACK CABLE W/PLUG	
E46	LSEK0363	PC/TV TUNER JACK CABLE W/ PLUG	
E47	LSLP0064	FERRITE CORE	
E48	LSMA0417	FIXING ANGLE	
E49	XQN2+BF3FXK	SCREW,STEEL	
E52	LSEP8031A1	LIQUID CRYSTAL DISPLAY C.B.A.	RTL
E52	LSEP8031B1	LIQUID CRYSTAL DISPLAY C.B.A.	RTL
E53	LSEP8033A1	RELAY C.B.A.	
E64	VEKW1782	LCD CABLE W/PLUG,DC5V	

13. TV TUNER UNIT SECTION (MODEL: D)

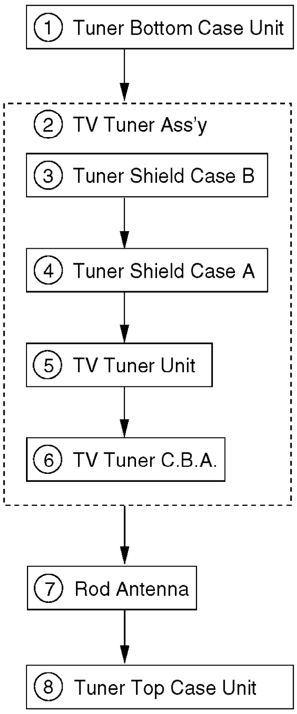
13.1. DISASSEMBLY/ASSEMBLY PROCEDURES

13.1.1. Disassembly Flowchart

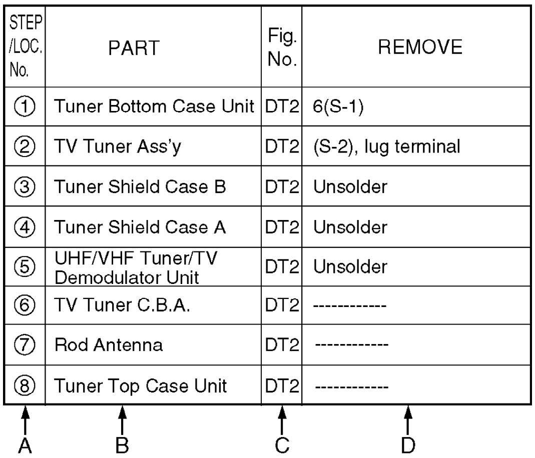
This flow chart indicates the disassembly steps of the cabinet parts and the P.C. Boards in order to gain access to item (s) to be serviced.

When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.

Fig. DT1


①Tuner Bottom Case Unit
②TV Tuner Ass'y
③Tuner Shield Case B
④Tuner Shield Case A
⑤TV Tuner Unit
⑥TV Tuner C.B.A.
⑦Rod Antenna
⑧Tuner Top Case Unit

13.1.2. Disassembly Method



STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Tuner Bottom Case Unit	DT2	6(S-1)
②	TV Tuner Ass'y	DT2	(S-2), lug terminal
③	Tuner Shield Case B	DT2	Unsolder
④	Tuner Shield Case A	DT2	Unsolder
⑤	UHF/VHF Tuner/TV Demodulator Unit	DT2	Unsolder
⑥	TV Tuner C.B.A.	DT2	------------
⑦	Rod Antenna	DT2	------------
⑧	Tuner Top Case Unit	DT2	------------

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps(s) in reverse order.

These numbers are also used as the identification (location) No. of parts in Figures.

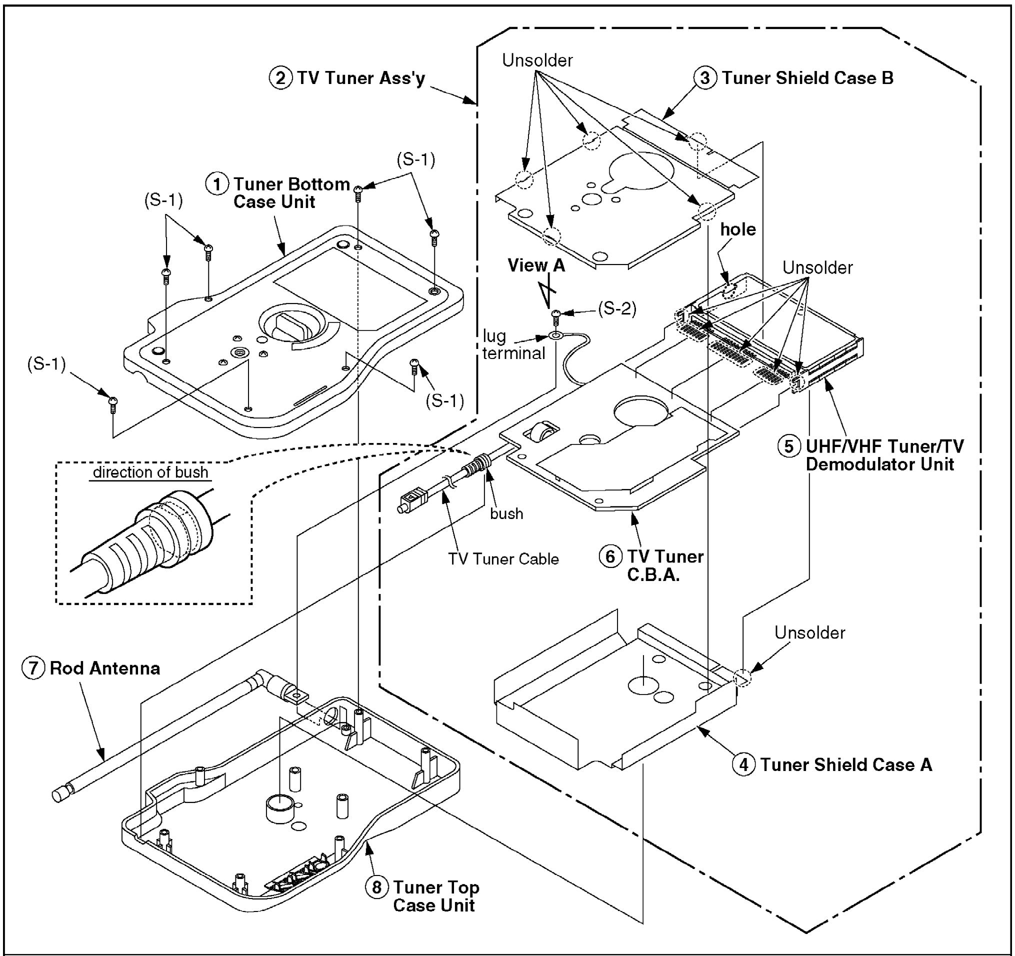
B: Part to be removed or installed.

C: Fig. No. showing Procedure or Part Location.

D: Identification of part to be removed, unhooked, unlocked, released, unplugged or unsoldered.

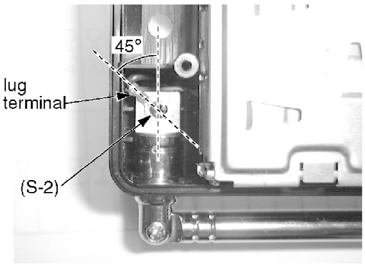
6(S-1) = 6 Screws (S-1)

Fig. DT2


② TV Tuner Ass'y
Unsolder
③ Tuner Shield Case B
(S-1)
① Tuner Bottom Case Unit
(S-1)
hole
View A
Unsolder
(S-2)
lug terminal
(S-1)
(S-1)
⑤ UHF/VHF Tuner/TV Demodulator Unit
direction of bush
bush
TV Tuner Cable
⑥ TV Tuner C.B.A.
Unsolder
⑦ Rod Antenna
④ Tuner Shield Case A
⑧ Tuner Top Case Unit

Reassembly Notes:

1. When installing TV Tuner C.B.A. to Tuner Top Case Unit, install the lug terminal correctly as shown.


45°
lug terminal
(S-2)

View A

2. When installing TV Tuner C.B.A. to Tuner Top Case Unit, place TV Tuner Cable so that the bush on the Cable is in the correct direction as shown above.
3. When installing the UHF/VHF Tuner/TV Demodulator Unit, position it on TV Tuner C.B.A. so that the **hole** of UHF/VHF Tuner/TV Demodulator Unit is in the position as shown above.

13.2. SCHEMATIC DIAGRAMS AND CIRCUIT BOARD LAYOUT

13.2.1. TV TUNER I SCHEMATIC DIAGRAM

13.2.2. TV TUNER II SCHEMATIC DIAGRAM

13.2.3. TV TUNER III SCHEMATIC DIAGRAM

13.2.4. SIGNAL WAVEFORM/VOLTAGE CHART/CIRCUIT BOARD LAYOUT

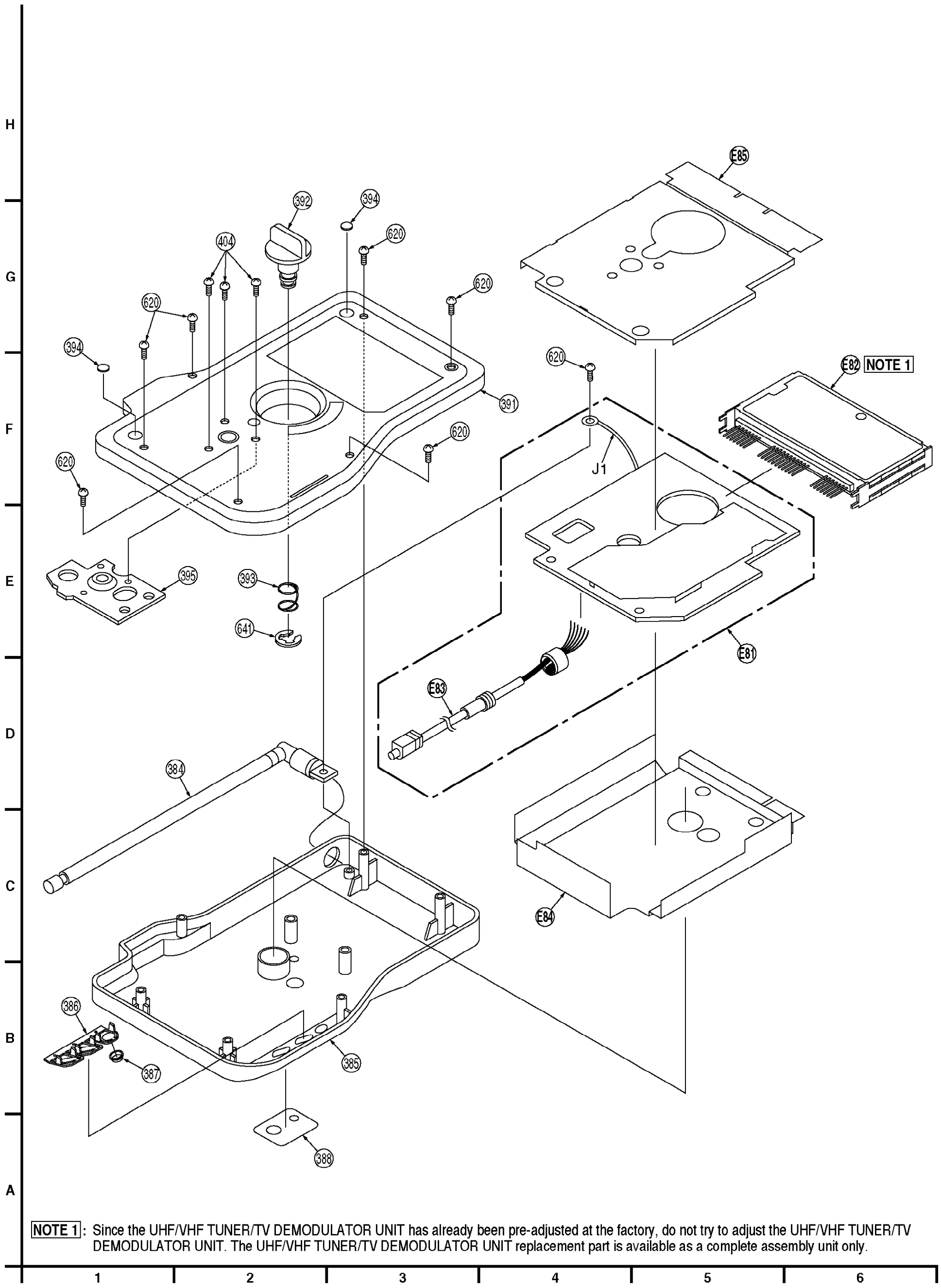
13.3. BLOCK DIAGARM

13.3.1. TV TUNER BLOCK DIAGRAM

13.4. EXPLODED VIEW

13.4.1. TV TUNER UNIT SECTION

TV TUNER UNIT SECTION


H
G
F
E
D
C
B
A
1
2
3
4
5
6
E85
392
394
620
404
620
620
394
391
620
E82
NOTE 1
620
J1
620
395
393
641
E81
E83
384
E84
386
387
385
388

NOTE 1: Since the UHF/VHF TUNER/TV DEMODULATOR UNIT has already been pre-adjusted at the factory, do not try to adjust the UHF/VHF TUNER/TV DEMODULATOR UNIT. The UHF/VHF TUNER/TV DEMODULATOR UNIT replacement part is available as a complete assembly unit only.

13.5. REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

13.5.1. REPLACEMENT NOTES

13.5.1.1. General Notes

1. **Use only original replacement parts:**
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.
2. **IMPORTANT SAFETY NOTICE**
   Components identified by the sign⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.
3. **SPECIAL NOTE**
   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.
4. **Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.**
5. **Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.**

13.5.1.2. Electrical Replacement Notes

1. **Item numbers with capital letter E (Example: E1, E2,...) in the Ref. No. column are shown in the exploded views.**
2. **The parts with " ■ " mark are supplied as an unit, and their individual parts are also supplied separately.**
3. **Unless otherwise specified;**
   All resistors are in Ω , 1/4 W,±5%, carbon,
   K = 1 000 Ω , M = 1 000 kΩ .
   All capacitors are in μF, P = μμF,±10%.
   All coils are in μH, M = 1 000 μH,±10%.
4. **Abbreviation**
   RTL: Retention Time Limited
   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be

available.
NR: Non Repairable Board Ass'y
MGF CHIP: Metal Glaze Film Chip
C CHIP: Ceramic Chip
COMPLX CMP: Complex Component
W FLMPRF: Wirewound Flameproof
C.B.A.: Circuit Board Assembly
P.C.B.: Printed Circuit Board
E.S.D.: Electrostatically Sensitive Devices

5. **SERVICE OF CHIP PARTS**
   When servicing chip parts, please use a soldering iron of less than 30 watts. Refer to "IC, TRANSISTOR AND CHIP PART INFORMATION" page.
6. **The parts with " ● " are 0 Ω resistor. When replacing, a wire can be substituted for a 0 Ω resistor.**
7. **Since the UHF/VHF TUNER/TV DEMODULATOR UNIT (Ref. No. E82) has already been pre-adjusted at the factory, do not try to adjust the UHF/VHF TUNER/TV DEMODULATOR UNIT. The UHF/ VHF TUNER/TV DEMODULATOR UNIT replacement part is available as a complete assembly unit only.**

13.5.2. MECHANICAL REPLACEMENT PARTS LIST

13.5.2.1. MECHANISM PARTS ON CHASSIS

Ref. No.	Part No.	Part Name& Description	Remarks
384	LSSQ0220	ROD ANTENNA	
385	LSKM0405	TUNER TOP CASE,ABS RESIN	
386	LSGU0122	TUNER OPERATION BUTTON	
387	VGUW0183	EIS BUTTON	
388	LSKA0013	TUNER SHEET	
391	LSKM0257	TUNER BOTTOM CASE,ABS RESIN	
392	VGQ4456	LOCK KNOB	
393	VMB3131	COIL SPRING	
394	LSKA0010	RUBBER FOOT	
395	LSMA0412	TUNER TRIPOD FRAME	

13.5.2.2. SCREWS AND WASHERS

Ref. No.	Part No.	Part Name& Description	Remarks
404	XQN2+BF3FXK	SCREW,STEEL	
620	XQN2+BJ6FXK	SCREW,STEEL	
641	XUC5VW	E-RING	

13.5.3. ELECTRICAL REPLACEMET PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name& Description	Remarks
E81	LSEQ0566	TV TUNER C.B.A.	■ E.S.D. RTL

13.5.3.1. TV TUNER C.B.A. ■

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC7101	NJM2380AFTE1	IC, LINEAR SHUNT REGULATOR	
IC7201	D789124AM503	IC, 16BIT MICROCONTROLLER	E.S.D.
IC7202	R3111Q391ATR	IC, LINEAR RESET	
	OR S80839ANNPT2	IC, LINEAR RESET	
	OR XC61CN3902NR	IC, LINEAR RESET	
IC7204	LC74723M9629	IC, LOGIC CHARACTER GENERATOR	E.S.D.

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q7001	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q7002	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q7101	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q7102	DTA124EU	CHIP	
	OR UN5112	CHIP	
Q7103	DTC124EU	CHIP	
	OR UN5212	CHIP	
Q7104	2SD1328	CHIP	
	OR 2SD2436	CHIP	
Q7105	2SD1328	CHIP	
	OR 2SD2436	CHIP	
Q7106	2SD1119	CHIP	⚠
	OR 2SD2150T100R	CHIP	⚠
Q7107	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q7108	2SC2412K1	CHIP	
	OR 2SD601A	CHIP	
Q7109	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q7201	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D7001	RD12S-T1B	ZENER CHIP 12V	
D7002	RD12S-T1B	ZENER CHIP 12V	
D7003	RD12S-T1B	ZENER CHIP 12V	
D7101	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D7103	MA111	CHIP	
	OR 1SS355TE-17	CHIP	
D7104	RD12S-T1B	ZENER CHIP 12V	
D7105	EP10QY03TE8L	CHIP	
D7106	MA188	CHIP	
D7107	MA8240-HTX	ZENER CHIP 24V	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R7007	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7008	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R7009	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R7010	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R7011	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R7012	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R7014	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R7015	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R7017	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R7018	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7019	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7029	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R7102	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R7103	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R7105	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7106	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R7108	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R7109	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R7110	ERJ8GEYJ221V	MGF CHIP 1/8W 220	
R7111	ERJ8GEYJ221V	MGF CHIP 1/8W 220	
R7112	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R7113	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R7114	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R7115	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R7116	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R7117	VRJSD6D4702	MGF CHIP +-0.5% 1/10W 47K	
R7118	VRJSD6D3902	MGF CHIP +-0.5% 1/10W 39K	
R7119	VRJSD6D5601	MGF CHIP +-0.5% 1/10W 5.6K	
R7121	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R7122	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R7123	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7124	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R7125	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7201	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7203	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R7204	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	

Ref. No.	Part No.	Part Name& Description	Remarks
R7205	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7206	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7207	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7208	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7209	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7210	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7211	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7212	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7213	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7214	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R7215	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R7220	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7221	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7222	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7223	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7224	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7229	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R7236	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7237	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R7239	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R7240	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C7001	ECEA0JKA221	ELECTROLYTIC 6.3V 220	
C7004	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C7005	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C7015	ECEA1HKA4R7	ELECTROLYTIC 50V 4.7	
C7101	ECEA1CKA220	ELECTROLYTIC 16V 22	
C7102	ECUV1H102KBN	C CHIP 50V 1000P	
C7103	EEAFC1C470H	ELECTROLYTIC 16V 47	
C7104	VCUSQFC475MB	C CHIP +-20% 16V 4.7	
C7105	ECEA1HKA010	ELECTROLYTIC 50V 1	
C7106	ECUV1H153KBN	C CHIP 50V 0.015	
C7107	ECUV1H104KBN	C CHIP 50V 0.1	
C7108	ECUV1C105ZFM	C CHIP +80%-20% 16V 1	
C7109	VCUSQAH224KB	C CHIP 50V 0.22	
C7110	ECEA1HKA3R3	ELECTROLYTIC 50V 3.3	
C7111	EEAFC0J101H	ELECTROLYTIC 6.3V 100	
C7112	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C7113	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C7114	ECUV1A105KBN	C CHIP 10V 1	
C7115	ECUV1H472KBN	C CHIP 50V 4700P	
C7117	ECUV1H222KBN	C CHIP 50V 2200P	
C7118	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C7201	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C7204	ECUV1H104ZFN	C CHIP +80%-20% 50V 0.1	
C7205	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	
C7207	ECUV1C105ZFN	C CHIP +80%-20% 16V 1	

Ref. No.	Part No.	Part Name& Description	Remarks
C7208	ECUV1H121JCN	C CHIP +-5% 50V 120P	
C7210	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C7211	ECUV1H180JCN	C CHIP +-5% 50V 18P	
C7212	ECUV1H220JCN	C CHIP +-5% 50V 22P	
C7213	ECUV1H220JCN	C CHIP +-5% 50V 22P	
C7214	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C7215	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	

FILTERS

Ref. No.	Part No.	Part Name& Description	Remarks
FL7001	ELB4E041B		

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L7001	ELESN100KA	10	
L7101	VLQSAB7D220K	22	
L7102	ELESN101KA	100	
L7103	ELESN470KA	47	
L7104	VLQSAB7D220K	22	
L7201	LSLJGLA180KF	CHIP 18	
L7202	BK2125HM102	FERRITE CORE 1K	
L7203	BK2125HM102	FERRITE CORE 1K	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name& Description	Remarks
X7201	EF0EC7164T4		

SWITCHES

Ref. No.	Part No.	Part Name& Description	Remarks
SW7201	EVQ23404M	PUSH SWITCH	
SW7202	EVQ23404M	PUSH SWITCH	
SW7203	EVQ23404M	PUSH SWITCH	

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T7103	LSTP0093		

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
J1	LSEK0362	LUG TERMINAL ASS'Y	
E83	LSEK0378	TV TUNER CABLE W/PLUG	

13.5.3.2. ELECTRICAL PARTS LOCATED ON CHASSIS

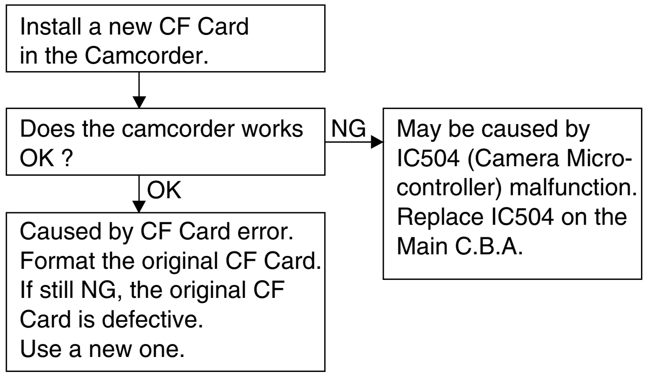
Ref. No.	Part No.	Part Name& Description	Remarks
E82	ENG36705G	TUNER, UHF/VHF NR	E.S.D.
E84	LSSC0338	TUNER SHIELD CASE A,STEEL	
E85	LSSC0339	TUNER SHIELD CASE B,STEEL	

13.5.3.3. SUMMARY OF "E" ITEM NUMBERS

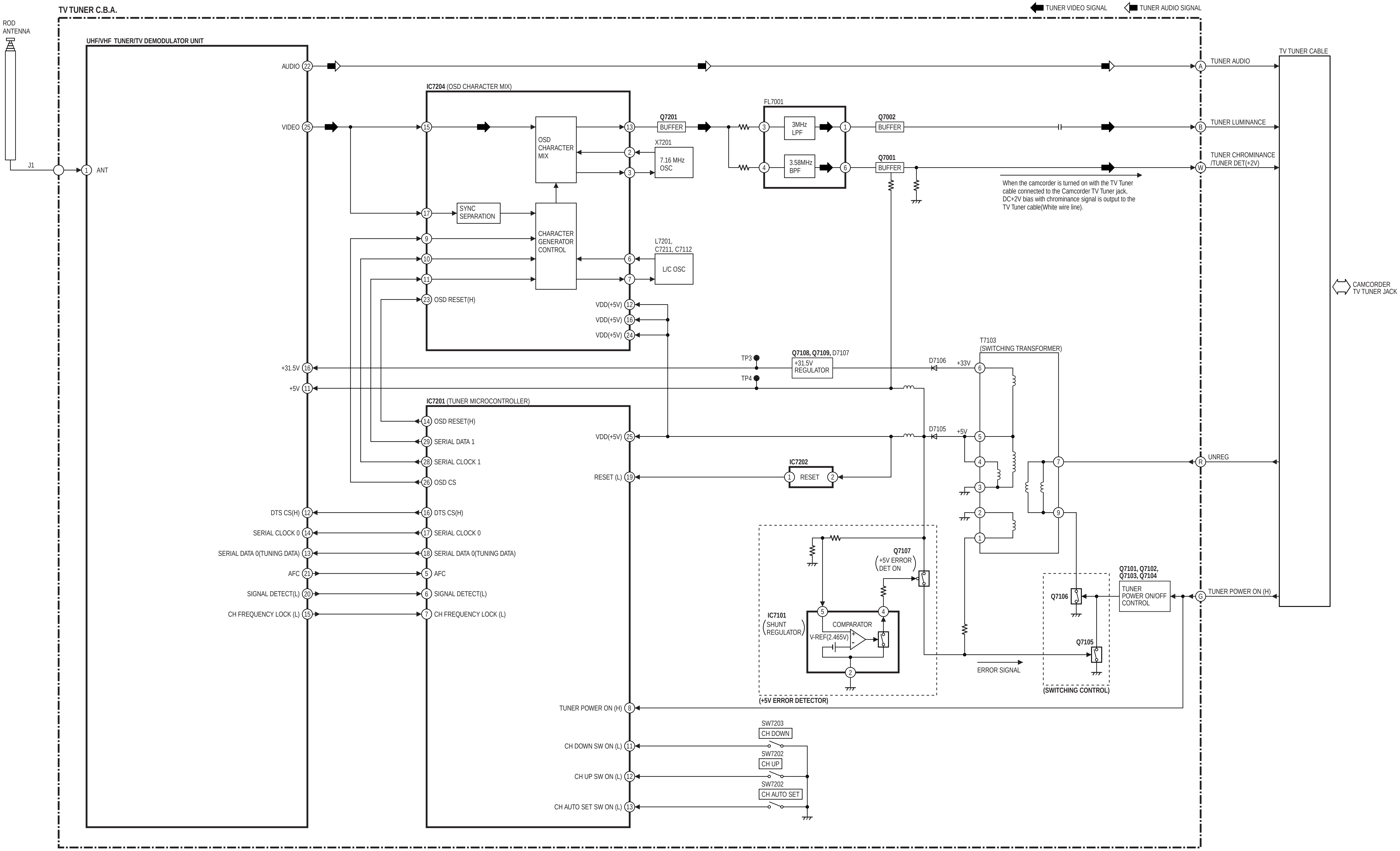
REFER TO ELECTRICAL PARTS LIST FOR MODEL INFORMATION

Ref. No.	Part No.	Part Name& Description	Remarks
E81	LSEQ0566	TV TUNER C.B.A.	RTL
E82	ENG36705G	TUNER, UHF/VHF NR	
E83	LSEK0378	TV TUNER CABLE W/PLUG	
E84	LSSC0338	TUNER SHIELD CASE A,STEEL	
E85	LSSC0339	TUNER SHIELD CASE B,STEEL	

The following ERROR No. will be displayed on the Camcorder LCD Monitor or EVF Monitor when an Error occurred.

ERROR No.	Error Description	Possible solution
U11	CF Card is not formatted. OR CF Card is not in DOS FORMAT.	Format the CF Card in a Windows PC. If still NG, the CF Card is defective. Use a new CF Card. ⬇ Still NG May be caused by bad contact between CF Card and IC504(Camera/DSC Microcontroller.) Check following items and repair if necessary. ・CF Card Connector Unit(Ref No. 218) ・IC504(Camera/DSC Microcontroller) ・Soldering on signal lines between IC504 and FP13 (Pin 3, 5, 7, 9, 11, 13～23, 26～36, 38) on the Main C.B.A.(There are some 100 ohm resistors(R524,R525, etc.))
U12	CF Card Format Error 1 (May be caused by interruption, such as AC OFF, or removal of the CF Card during accessing the system area of the memory address.)	Format the CF Card in a Windows PC. If still NG, the CF Card is defective. Use a new CF Card.
U13	CF Card Format Error 2 (May be caused by interruption, such as AC OFF, or removal of the CF Card during accessing the system area of the memory address.)	Check the CF Card for error, and correct the error using the "SCAN DISK" function of a Windows PC. If still NG, format the CF Card.
U14	Communication Error (CF Card <--> Camcorder)	 Install a new CF Card in the Camcorder. Does the camcorder works OK ? NG: May be caused by IC504 (Camera Micro-controller) malfunction. Replace IC504 on the Main C.B.A. OK: Caused by CF Card error. Format the original CF Card. If still NG, the original CF Card is defective. Use a new one.
U15	No CF Card Memory	Delete the data in the CF Card which was recorded by other compatible products. OR Use a new CF Card.
U16	Captured image (ctg folder) limit exceeded (Max. 215 folders)	Delete the data in the CF Card which was recorded by other compatible products. OR Use a new CF Card.
U17	Captured image (JPEG file) limit exceeded (Max. 699 files)	Delete the data in the CF Card which was recorded by other compatible products. OR Use a new CF Card.
U30	Error other than above	May be caused by IC504 (Camera Microcontroller) malfunction. Replace IC504 on the Main C.B.A.

Note: When the CF Card Connector Unit connector is disconnected from FP13 on the Main C.B.A., "NO CF CARD" appears on-screen. Connect the CF Card Connector Unit connector firmly.


TV TUNER C.B.A.
TUNER VIDEO SIGNAL
TUNER AUDIO SIGNAL
ROD ANTENNA
J1
UHF/VHF TUNER/TV DEMODULATOR UNIT
ANT
AUDIO 22
VIDEO 25
+31.5V 16
+5V 11
DTS CS(H) 12
SERIAL CLOCK 0 14
SERIAL DATA 0(TUNING DATA) 13
AFC 21
SIGNAL DETECT(L) 20
CH FREQUENCY LOCK (L) 15
IC7204 (OSD CHARACTER MIX)
OSD CHARACTER MIX
SYNC SEPARATION
CHARACTER GENERATOR CONTROL
OSD RESET(H)
VDD(+5V)
X7201
7.16 MHz OSC
L7201, C7211, C7112
L/C OSC
Q7201
BUFFER
FL7001
3MHz LPF
3.58MHz BPF
Q7002
BUFFER
Q7001
BUFFER
When the camcorder is turned on with the TV Tuner cable connected to the Camcorder TV Tuner jack, DC+2V bias with chrominance signal is output to the TV Tuner cable(White wire line).
IC7201 (TUNER MICROCONTROLLER)
OSD RESET(H)
SERIAL DATA 1
SERIAL CLOCK 1
OSD CS
DTS CS(H)
SERIAL CLOCK 0
SERIAL DATA 0(TUNING DATA)
AFC
SIGNAL DETECT(L)
CH FREQUENCY LOCK (L)
VDD(+5V)
RESET (L)
TUNER POWER ON (H)
CH DOWN SW ON (L)
CH UP SW ON (L)
CH AUTO SET SW ON (L)
TP3
TP4
Q7108, Q7109, D7107
+31.5V REGULATOR
IC7202
RESET
D7106
+33V
D7105
+5V
T7103 (SWITCHING TRANSFORMER)
Q7107
(+5V ERROR DET ON)
IC7101 (SHUNT REGULATOR)
COMPARATOR
V-REF(2.465V)
(+5V ERROR DETECTOR)
ERROR SIGNAL
Q7106
Q7105
(SWITCHING CONTROL)
Q7101, Q7102, Q7103, Q7104
TUNER POWER ON/OFF CONTROL
SW7203
CH DOWN
SW7202
CH UP
SW7202
CH AUTO SET
TV TUNER CABLE
TUNER AUDIO
TUNER LUMINANCE
TUNER CHROMINANCE /TUNER DET(+2V)
UNREG
TUNER POWER ON (H)
A
B
W
R
G
CAMCORDER TV TUNER JACK

MAIN C.B.A. LSEP8026A1 (A) / LSEP8026F1 (B) / LSEP8026E1 (C) / LSEP8026B1 (D)

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 3A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 3A 32V

3A 32V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 1.5A 63V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 1.5A 63V

1.5A 63V

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

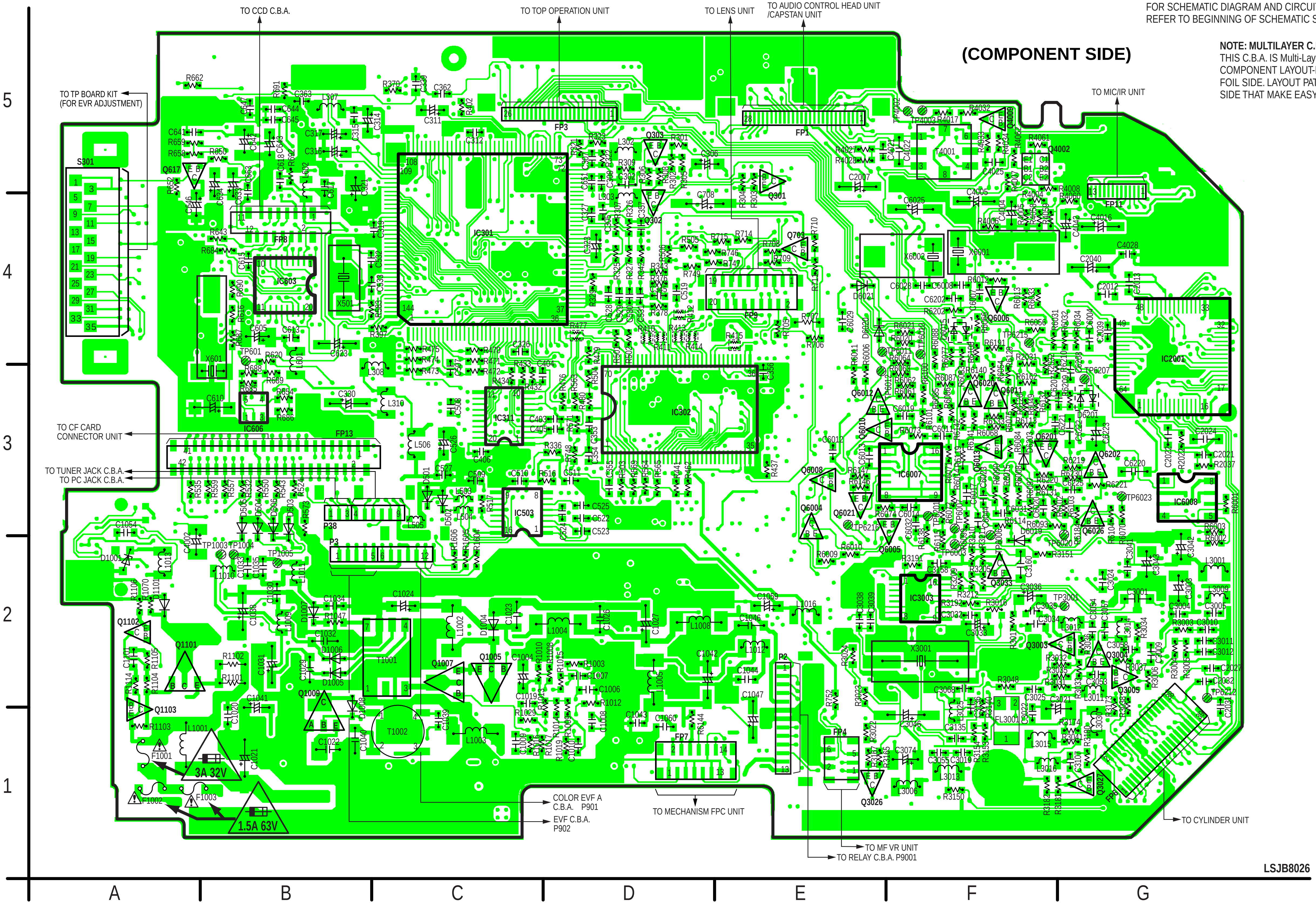
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

(COMPONENT SIDE)

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.


TO CCD C.B.A.
TO TOP OPERATION UNIT
TO LENS UNIT
TO AUDIO CONTROL HEAD UNIT
/CAPSTAN UNIT
TO MIC/IR UNIT
TO TP BOARD KIT
(FOR EVR ADJUSTMENT)
TO CF CARD
CONNECTOR UNIT
TO TUNER JACK C.B.A.
TO PC JACK C.B.A.
COLOR EVF A
C.B.A. P901
EVF C.B.A.
P902
TO MECHANISM FPC UNIT
TO MF VR UNIT
TO RELAY C.B.A. P9001
TO CYLINDER UNIT
S301
FP3
FP1
FP11
FP8
FP9
FP13
FP7
FP4
FP6
P38
P3
P2
IC301
IC302
IC311
IC503
IC603
IC606
IC2001
IC3003
IC6007
IC6008
T1001
T1002
X501
X601
X3001
X6001
X6002
F1001
F1002
F1003
3A 32V
1.5A 63V
LSJB8026
1
2
3
4
5
A
B
C
D
E
F
G

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D

MAIN C.B.A. LSEP8026A1 (A) / LSEP8026F1 (B) / LSEP8026E1 (C) / LSEP8026B1 (D)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

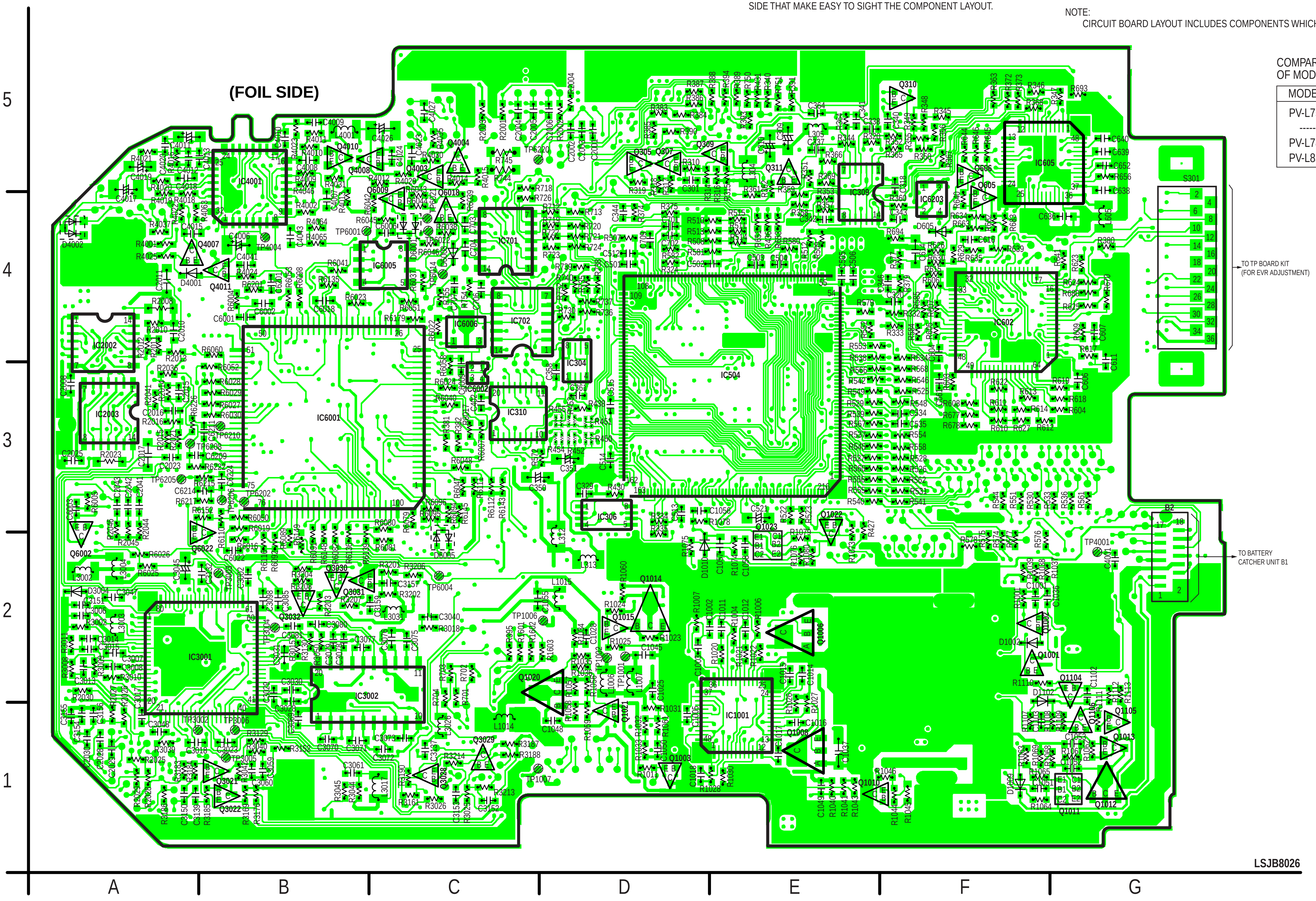
NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D



(FOIL SIDE)
5
4
3
2
1
A
B
C
D
E
F
G
IC4001
IC2002
IC2003
IC6005
IC6006
IC701
IC702
IC6001
IC304
IC6002
IC310
IC504
IC306
IC309
IC6203
IC605
IC602
IC3001
IC3002
IC1001
Q4010
Q4008
Q4004
Q4003
Q4007
Q4011
Q6009
Q6018
Q305
Q307
Q309
Q310
Q311
Q605
Q606
Q6002
Q6022
Q3030
Q3031
Q3032
Q3029
Q3021
Q3022
Q1014
Q1015
Q1020
Q1021
Q1003
Q1008
Q1006
Q1010
Q1022
Q1023
Q1001
Q1002
Q1104
Q1105
Q1106
Q1013
Q1011
Q1012
S301
B2
TO TP BOARD KIT
(FOR EVR ADJUSTMENT)
TO BATTERY
CATCHER UNIT B1
LSJB8026

LCD C.B.A. LSEP8031A1 (A, B, C) / LSEP8031B1 (D)

RELAY C.B.A. LSEP8033A1

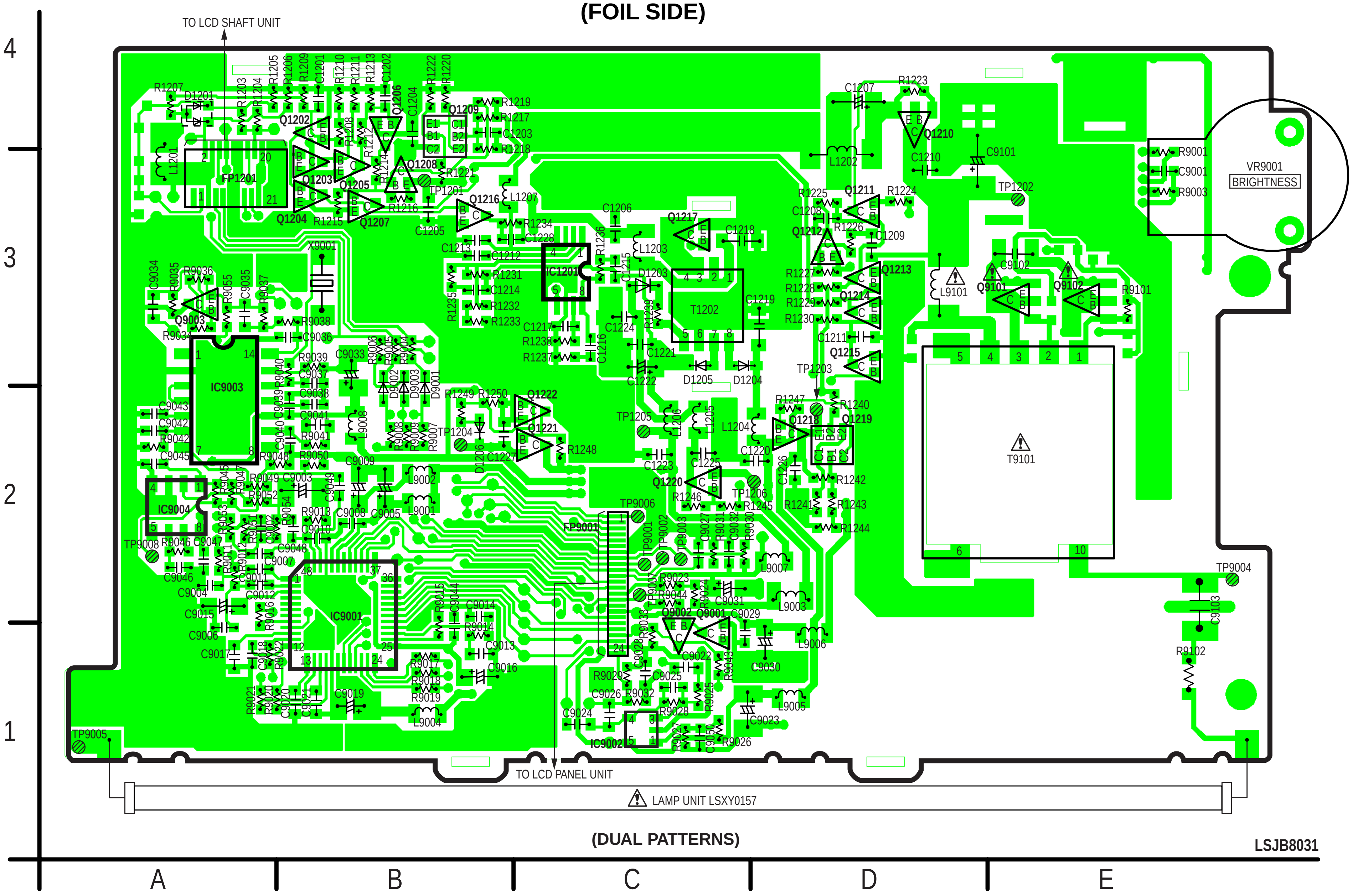
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

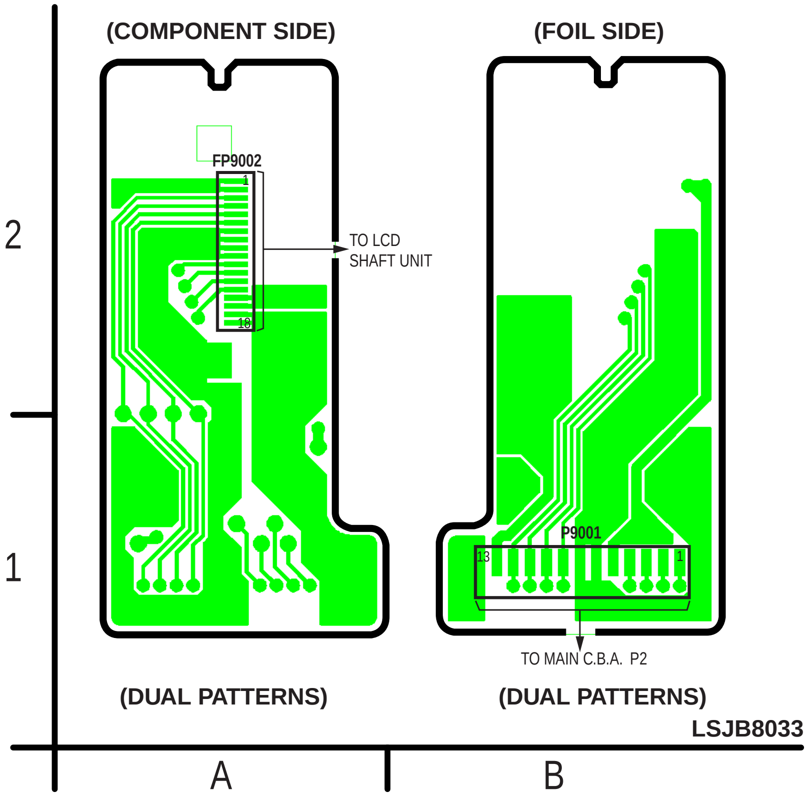
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

(FOIL SIDE)


TO LCD SHAFT UNIT
FP1201
IC1201
IC9001
IC9002
IC9003
IC9004
T1202
T9101
FP9001
X9001
VR9001
BRIGHTNESS
TP1201
TP1202
TP1203
TP1204
TP1205
TP1206
TP9004
TP9005
TP9006
TP9008
TO LCD PANEL UNIT
⚠ LAMP UNIT LSXY0157
(DUAL PATTERNS)
LSJB8031
4
3
2
1
A
B
C
D
E

(COMPONENT SIDE)

(FOIL SIDE)


FP9002
1
18
TO LCD SHAFT UNIT
P9001
13
1
TO MAIN C.B.A. P2
(DUAL PATTERNS)
(DUAL PATTERNS)
LSJB8033
2
1
A
B

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D

EVF C.B.A. LSEQ0558 (A, C, D)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
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PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
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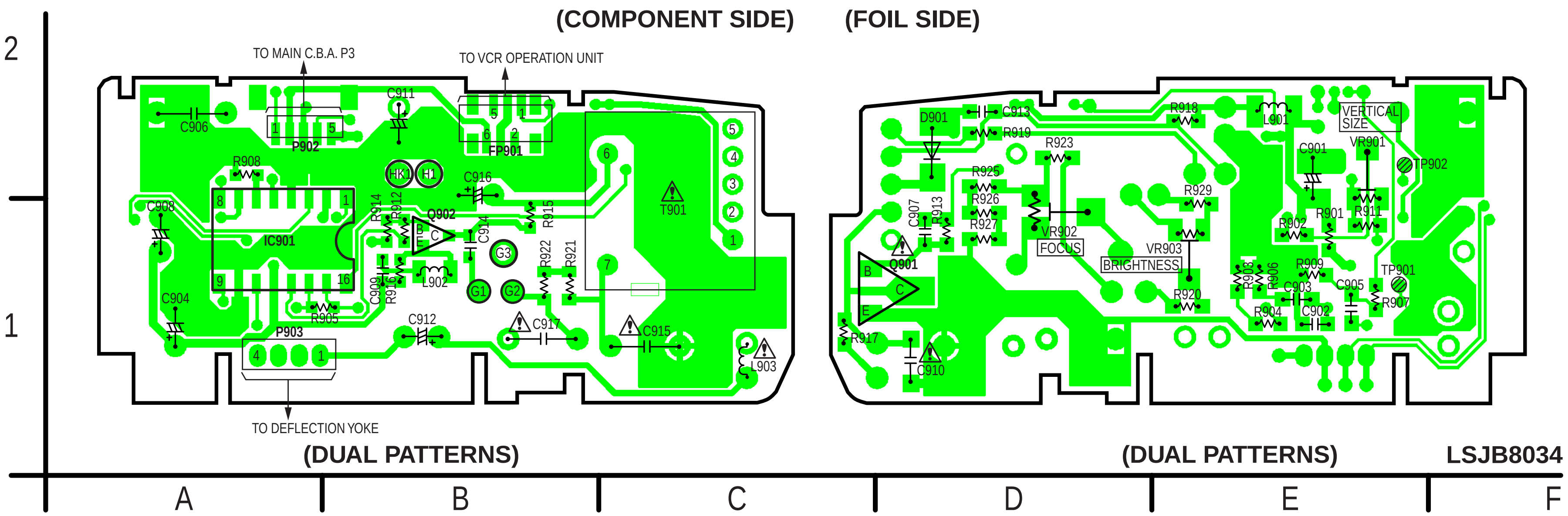
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

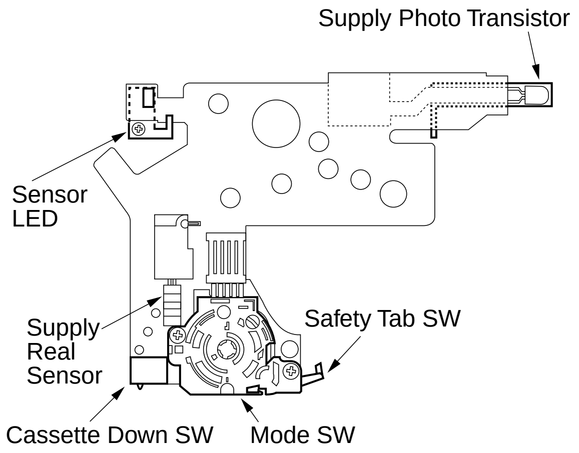

(COMPONENT SIDE)
(FOIL SIDE)
TO MAIN C.B.A. P3
TO VCR OPERATION UNIT
TO DEFLECTION YOKE
P902
FP901
IC901
Q902
P903
T901
L902
L903
HK
H1
G1
G2
G3
D901
Q901
L901
VR901
VR902
VR903
VERTICAL SIZE
FOCUS
BRIGHTNESS
TP901
TP902
(DUAL PATTERNS)
(DUAL PATTERNS)
LSJB8034
A
B
C
D
E
F
1
2

MECHANISM FPC UNIT

NOTE:
MECHANISM FPC UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D

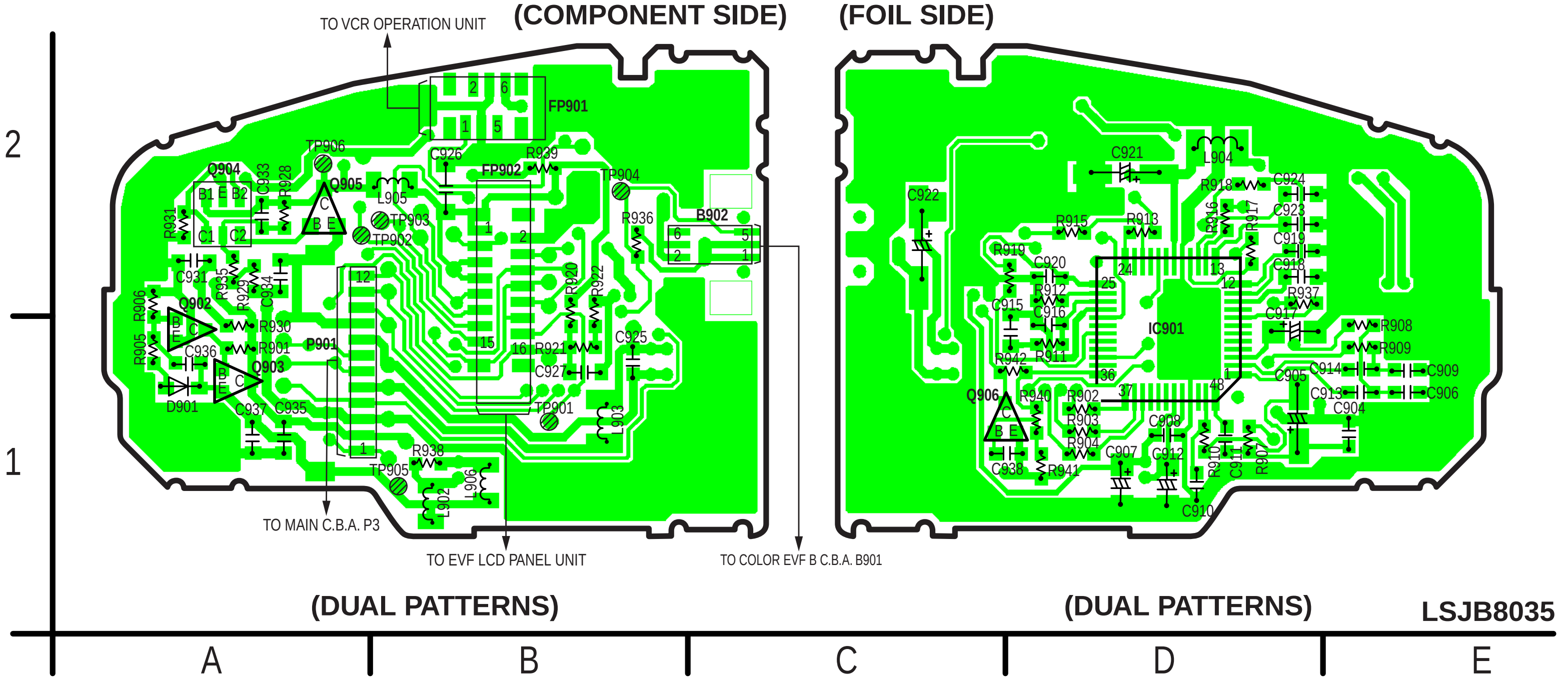

Supply Photo Transistor
Sensor LED
Supply Real Sensor
Safety Tab SW
Cassette Down SW
Mode SW

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COLOR EVF A C.B.A. LSEP8035A1 (B)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

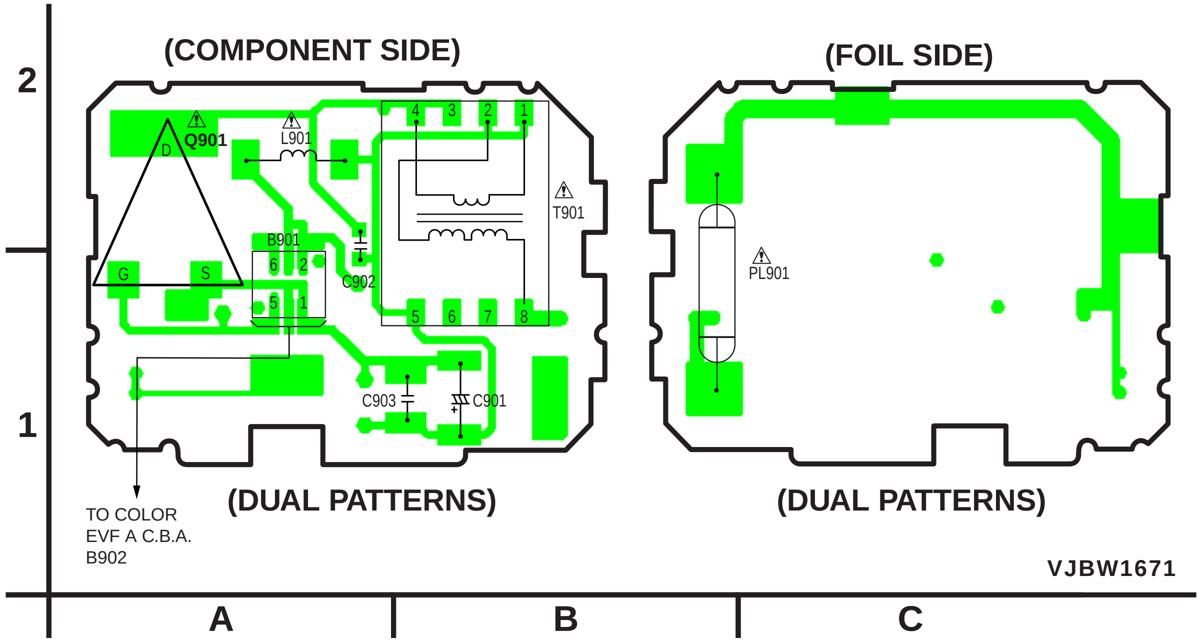
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.


(COMPONENT SIDE)
(FOIL SIDE)
TO VCR OPERATION UNIT
FP901
FP902
B902
P901
Q904
Q905
Q902
Q903
Q906
IC901
D901
TP902
TP903
TP904
TP905
TP906
L902
L903
L904
L905
L906
TO MAIN C.B.A. P3
TO EVF LCD PANEL UNIT
TO COLOR EVF B C.B.A. B901
(DUAL PATTERNS)
(DUAL PATTERNS)
LSJB8035
A
B
C
D
E
1
2

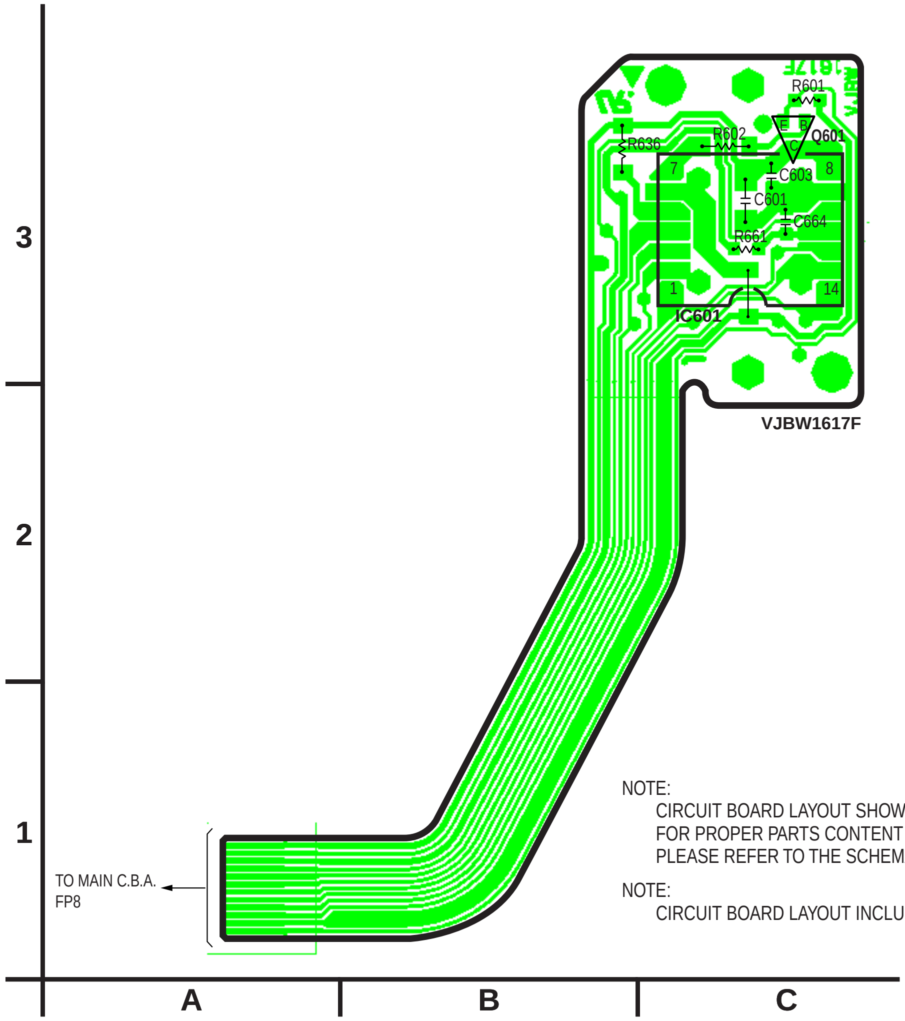
COLOR EVF B C.B.A. VEPW1671A1 (B)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.


(COMPONENT SIDE)
(FOIL SIDE)
Q901
L901
T901
B901
C901
C902
C903
PL901
TO COLOR EVF A C.B.A. B902
(DUAL PATTERNS)
(DUAL PATTERNS)
VJBW1671
A
B
C
1
2

CCD C.B.A. LSEQ0548 (A, B, C) / LSEQ0571 (D)

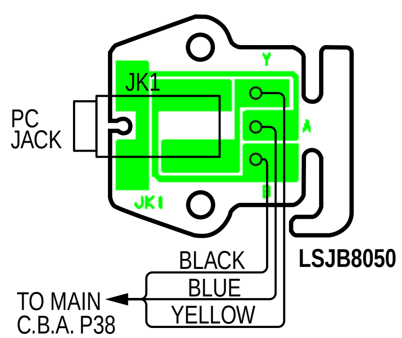

R601
R636
R602
Q601
E
B
C
7
8
C603
C601
C664
R661
1
14
IC601
VJBW1617F
TO MAIN C.B.A.
FP8
3
2
1
A
B
C

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

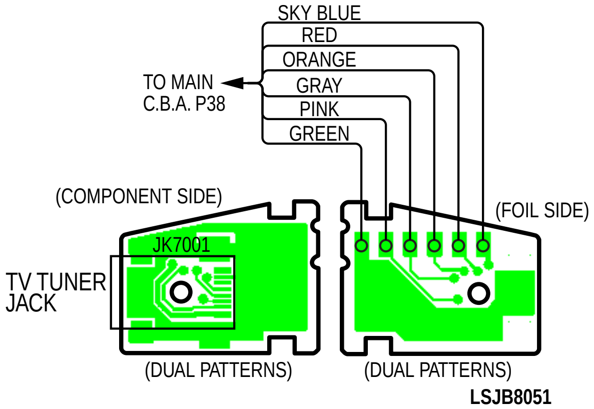
PC JACK C.B.A. LSEP8050A1


JK1
PC
JACK
LSJB8050
BLACK
BLUE
YELLOW
TO MAIN
C.B.A. P38

COMPARISON CHART
OF MODELS & MARKS

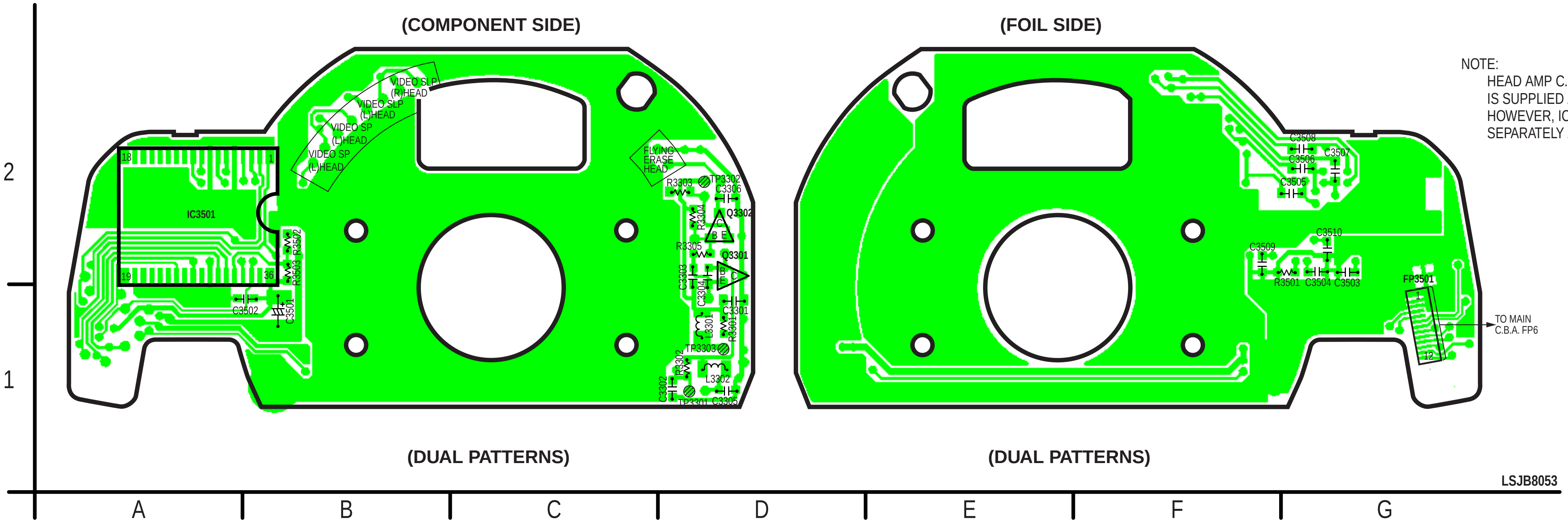
MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D

TV TUNER JACK C.B.A. LSEP8051A1 (D)


SKY BLUE
RED
ORANGE
GRAY
PINK
GREEN
TO MAIN
C.B.A. P38
(COMPONENT SIDE)
(FOIL SIDE)
JK7001
TV TUNER
JACK
(DUAL PATTERNS)
(DUAL PATTERNS)
LSJB8051

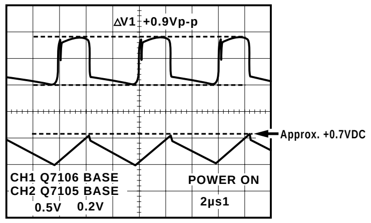
NOTE:
REF. NO. "JK7001" (TV TUNER JACK) IS PRINTED AS JK1 ON THE TV TUNER JACK C.B.A.

HEAD AMP C.B.A.

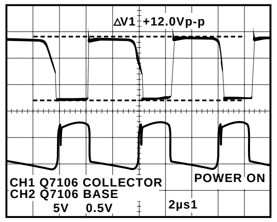

(COMPONENT SIDE)
(FOIL SIDE)
VIDEO SLP
(R)HEAD
VIDEO SLP
(L)HEAD
VIDEO SP
(R)HEAD
VIDEO SP
(L)HEAD
IC3501
18
1
19
36
R3502
R3503
C3502
C3501
FLYING
ERASE
HEAD
R3303
TP3302
C3306
R3304
Q3302
R3305
Q3301
C3303
C3304
L3301
R3301
C3301
TP3303
R3302
L3302
C3302
TP3301
C3305
C3508
C3507
C3506
C3505
C3509
C3510
R3501
C3504
C3503
FP3501
TO MAIN
C.B.A. FP6
(DUAL PATTERNS)
(DUAL PATTERNS)
LSJB8053
2
1
A
B
C
D
E
F
G

NOTE:
HEAD AMP C.B.A. WHICH IS LOCATED ON THE LOWER CYLINDER IS SUPPLIED AS A CYLINDER UNIT ONLY.
HOWEVER, IC3501 (AN3365SB-E1 OR AN3368SB-E1) IS AVAILABLE SEPARATELY AS A REPLACEMENT PART.

SIGNAL WAVEFORM



CH1 WF23
CH2 WF24



CH1 WF25
CH2 WF23

VOLTAGE CHART

MODE / PIN NO.	CAMERA
IC7101	
1	0
2	0
3	2.2
4	3.5
5	2.5
IC7201	
1	3.9
2	0.3
3	3.9
4	-0.2
5	0.2
6	3.9
7	1.2
8	0
9	0
10	0
11	5.2
12	5.1
13	5.0
14	4.5
15	0
16	0.6
17	4.5
18	0.5
19	4.1
20	0
21	0.5
22	2.9
23	2.8
24	0
25	5.2
26	4.9
27	0
28	5.0
29	0.1
30	4.1
IC7202	
1	4.5
2	5.2
3	0.5
4	0
IC7204	
1	0
2	2.5
3	2.5
4	0
5	4.7
6	2.5
7	2.5
8	4.7
9	4.9
10	5.1
11	0.3
12	5.2
13	9.6
14	0.1
15	1.2
16	5.2
17	5.4
18	2.2
19	4.9
20	5.2
21	0
22	5.2
23	4.6
24	5.2
Q7001	
E	2.2
C	5.0
B	2.8
Q7002	
E	3.3
C	5.0
B	4.0
Q7101	
E	0
C	0
B	4.3
Q7102	
E	6.9
C	6.9
B	0
Q7103	
E	0
C	0
B	6.9
Q7104	
E	0
C	0.3
B	0
Q7105	
E	0
C	0.3
B	0.6
Q7106	
E	0
C	6.9
B	0.3
Q7107	
E	5.2
C	0.6
B	4.6
Q7108	
E	31.6
C	33.0
B	32.0
Q7109	
E	0
C	31.6
B	0.4
Q7201	
E	3.1
C	0
B	2.5
TP3	31.6
TP4	5.2
TP7001	0.4
TP7002	0.5
TP7201	0

CIRCUIT BOARD LAYOUT

TV TUNER C.B.A. LSEQ0566

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
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NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
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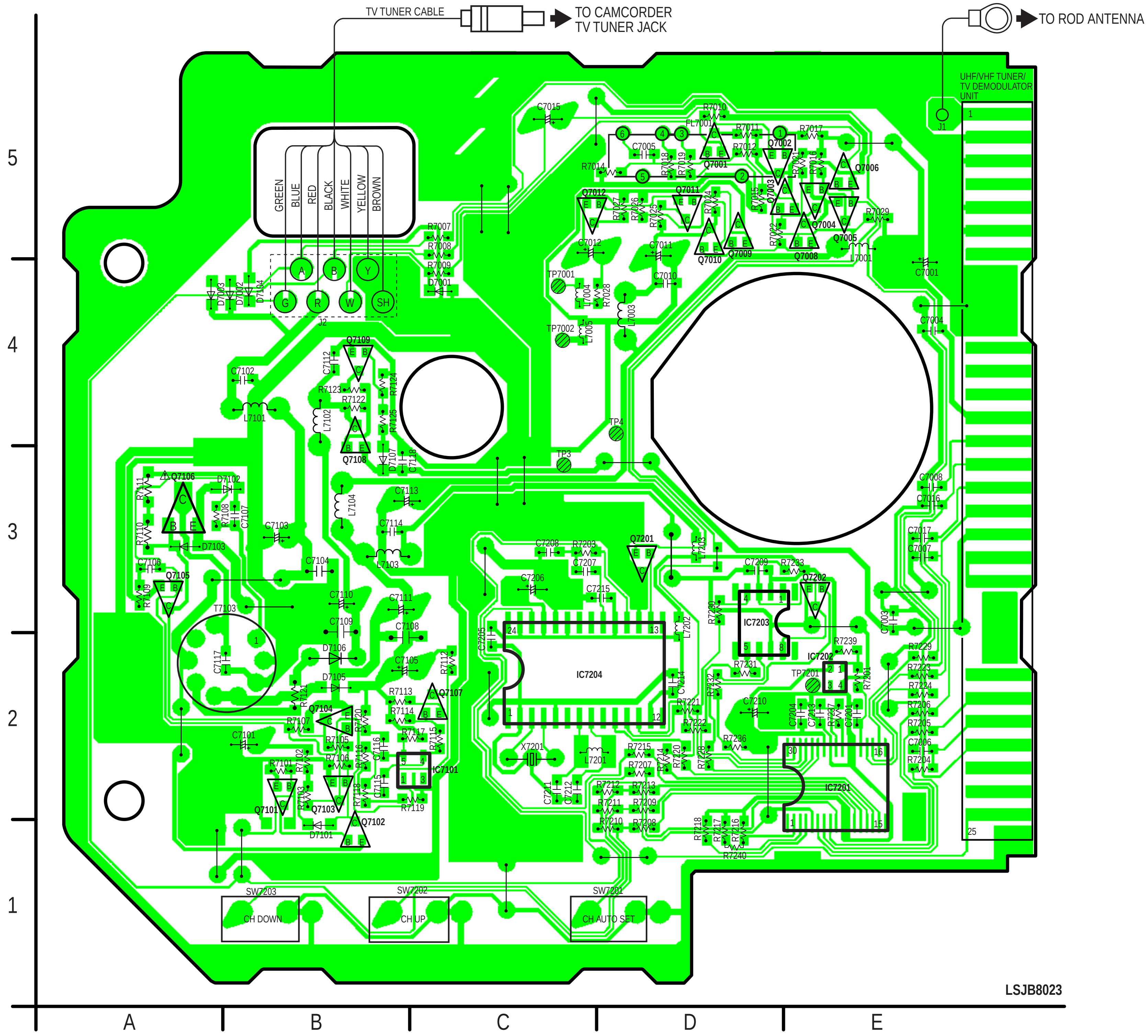
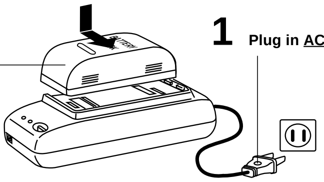
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.


TV TUNER CABLE
TO CAMCORDER
TV TUNER JACK
TO ROD ANTENNA
UHF/VHF TUNER/
TV DEMODULATOR
UNIT
J1
GREEN
BLUE
RED
BLACK
WHITE
YELLOW
BROWN
J2
G
R
W
SH
B
Y
A
Q7001
Q7002
Q7003
Q7004
Q7005
Q7006
Q7008
Q7009
Q7010
Q7011
Q7012
Q7101
Q7102
Q7103
Q7104
Q7105
Q7106
Q7107
Q7108
Q7109
Q7201
Q7202
IC7101
IC7201
IC7202
IC7203
IC7204
T7103
X7201
FL7001
L7001
L7003
L7004
L7005
L7101
L7102
L7103
L7104
L7201
L7202
D7001
D7002
D7003
D7004
D7101
D7102
D7103
D7105
D7106
D7107
TP3
TP4
TP7001
TP7002
TP7201
SW7203
CH DOWN
SW7202
CH UP
SW7201
CH AUTO SET
5
4
3
2
1
A
B
C
D
E
LSJB8023

Quick Operation Guide

Charging the Battery Pack

Charge Battery Pack fully before operation.

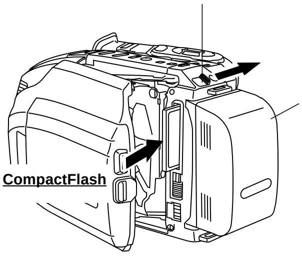


1 **Plug in AC Adaptor.**

2 **Insert Battery.**
CHARGE Lamp lights and then goes out when charging is done.

Insert the CompactFlash Card

When the CompactFlash Card is not inserted in CAMERA or PHOTO mode, **"NO CF CARD"** appears on-screen. Be sure to insert the CompactFlash Card before using the Built-in Digital Still Camera.
CAMERA recording is possible even when the CompactFlash Card is not inserted.

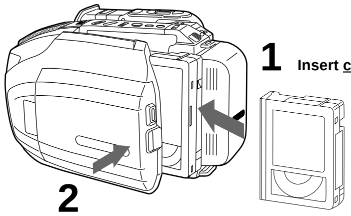


1 **Attach fully charged Battery.**

2 **Slide TAPE EJECT** to open door.

3 **Insert the CompactFlash Card.**

Insert Cassette

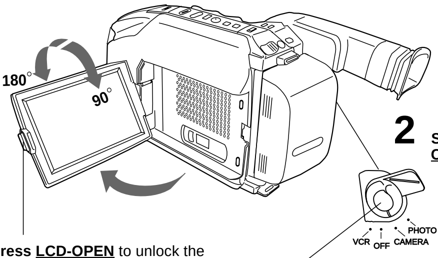


1 **Insert cassette.**

2 **Press here** to close door.

Camera Recording

When the LCD monitor is open, the EVF automatically turns OFF.



1 **Press LCD-OPEN** to unlock the LCD monitor. **Swing it fully open and adjust the angle.**

2 **Set POWER to CAMERA.**

3 **Press RECORD/PAUSE** to start recording.
Press RECORD/PAUSE again to pause recording.

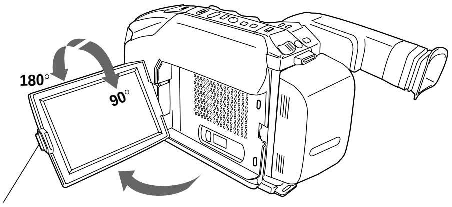
Quick Operation Guide (continued)

Playback using the LCD Monitor

When the LCD monitor is open, the EVF automatically turns OFF.

Before you begin...

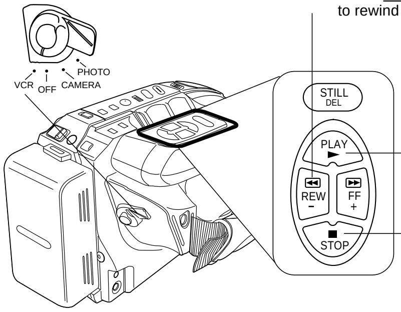
- **Charge Battery Pack fully before operation.**



1 **Press LCD-OPEN** to unlock the LCD monitor. **Swing it fully open and adjust the angle.**

2 **Set POWER to VCR.**

3 **Press REWIND/SEARCH** to rewind tape.



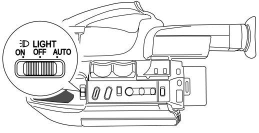
4 **Press PLAY** to start playback.

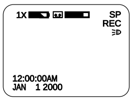
5 **Press STOP** to stop playback.

Built-in Auto Light

Using the Light

For recording in dim lighting.





Before you begin...

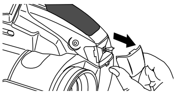
- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

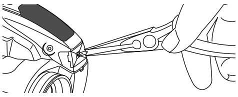
Set LIGHT to AUTO.
Light turns on/off automatically according to lighting conditions.
Or, set LIGHT to ON/OFF manually.

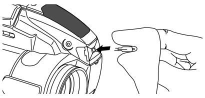
ƎD appears in EVF or LCD monitor when Light is on.

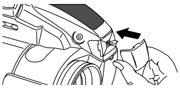
Caution:
Light becomes hot. Never cover Light while on.

Replacing the Bulb









Before you begin...

- **Order Part No. VULS0001 (VLLW0015 and cushions) for replacement bulb unit.**
- **Set POWER to OFF.**

1 **Press in on both sides of lens cover and pull straight out and off.**

2 **Using Tweezers or needle-nose pliers, carefully remove bulb.**
- Take unit to service center if you need assistance.

3 **Replace bulb using a clean cloth or tissue.**

4 **Replace lens cover.**

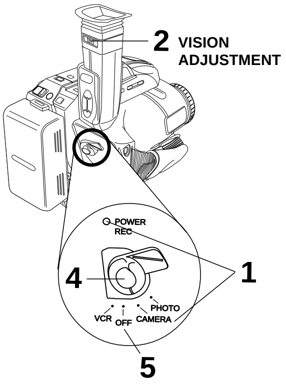
DANGER:

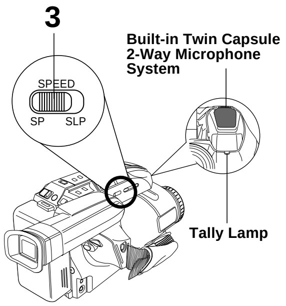
Use only replacement bulb (PART NO. VLLW0015) supplied by Panasonic to reduce risk of fire.
Handle new bulb with cloth or tissue as skin oils will decrease bulb life.
Remove lens cover and allow bulb to cool before replacing to avoid possible burn hazard.

Note:
- Using Light reduces battery operating time.
- Provide proper ventilation when using Light extensively in a hot environment.
- Using Light when the Camcorder is powered by a car battery may shorten bulb life.
- Set Light to OFF when not in use.
- Handle bulb gently. Excessive force may cause bulb to crack.

Camera Recording

Simple Recording



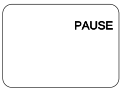


Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab.**

1 **Set POWER to CAMERA.**
Lens Cover opens.
Power lamp lights.
- Be sure POWER is fully turned to CAMERA position.

EVF or LCD monitor

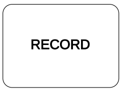

PAUSE

Record/Pause mode.

2 **Look into EVF and adjust VISION ADJUSTMENT to your eyesight.**

3 **Slide TAPE SPEED** to SP or SLP.

4 **Press RECORD/PAUSE** to start or pause recording.
Tally lamp lights if set to ON.


RECORD

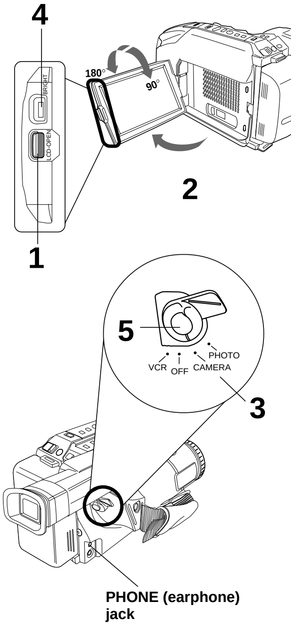
5 **Set POWER to OFF** when finished.

- **To remove cassette,** slide TAPE EJECT in Record/ Pause mode.

Note:
- When Camcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is normal for the CCD pick-up. Try to avoid this when possible.

Using the LCD Monitor

View recording scene on the LCD (Liquid Crystal Display) monitor.



Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab.**

1 **Press LCD-OPEN** to unlock LCD monitor.

2 **Swing LCD monitor fully open and adjust viewing angle**.

Caution:
Rotating partially open LCD monitor may block cassette door and damage Camcorder body.

3 **Set POWER to CAMERA.**
- EVF or LCD monitor turns on/off by the POWER switch.
- EVF shuts off when LCD monitor is opened and turns back on when LCD is closed.
- Both EVF and LCD monitor turn on when LCD is at 180° (see above left).
This allows both you and the subject to view the recording.

4 **Turn BRIGHT control** to adjust LCD monitor brightness level.

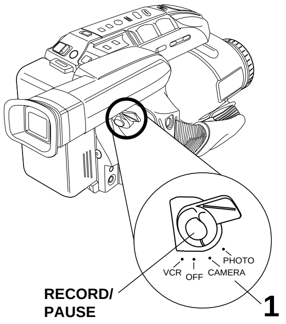
5 **Press RECORD/PAUSE** to start recording.

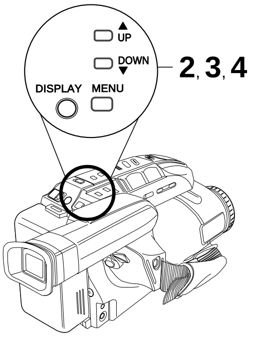
Note:
- Using LCD monitor reduces battery operation time.
- Return LCD monitor to locked position when not in use.
- To hear sound while recording, connect earphone (M3 type: not supplied) to PHONE jack. Earphone volume cannot be changed while in CAMERA mode.

Camera Recording (continued)

Stand-by Quick Release

If left in RECORD/PAUSE mode for 5 minutes, Camcorder switches to Stand-by mode to conserve battery. When set to ON, Stand-by Quick Release lets you resume recording by pressing RECORD/PAUSE two times. New camcorders will default to OFF.



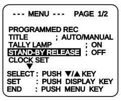


Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab.**

1 **Set POWER to CAMERA.**

2 **Press MENU for MENU mode.**
Press UP▲ or DOWN▼ to select **STAND-BY RELEASE** .



```
--- MENU ---    PAGE 1/2

PROGRAMMED REC
TITLE          ; AUTO/MANUAL
TALLY LAMP        ; ON
STAND-BY RELEASE  ; OFF
CLOCK SET
   ▼
SELECT : PUSH ▼/▲ KEY
SET    : PUSH DISPLAY KEY
END    : PUSH MENU KEY
```

3 **Press DISPLAY** to select ON/OFF.

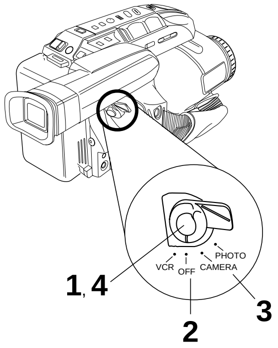
ON: From Stand-by mode,
press RECORD/PAUSE two times to resume recording.

OFF: From Stand-by mode,
set POWER to OFF, then to CAMERA.
Press RECORD/PAUSE to record.

4 **Press MENU** to exit.

Easy Edit Stand-by

For a smooth transition between scenes if recording is stopped, and then started within 24 hours.



Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab.**

1 **Press RECORD/PAUSE to stop recording.**

2 **Set POWER to OFF** and leave cassette in Camcorder.

3 To resume recording, **set POWER to CAMERA.**

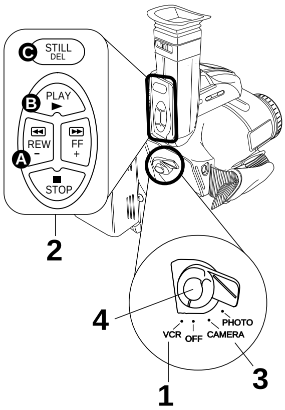
4 **Press RECORD/PAUSE** to resume recording.

Note:
- Use Manual Easy Edit (below) if more than 24 hours before recording is resumed.

Camera Recording (continued)

Manual Easy Editing

For proper continuity when taping from Stop mode or after attaching a new Battery.



Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab.**

1 **Set POWER to VCR.**

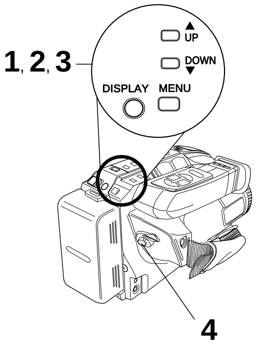
2 **Ⓐ Press REWIND/SEARCH** rewind a few seconds of tape.
Ⓑ Press PLAY to review recording.
Ⓒ Press STILL where you want to continue recording.

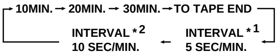
3 **Set POWER to CAMERA.**

4 **Press RECORD/PAUSE** to resume recording.

Programmed Recording

Set a recording start and stop time. Or, set a 5 or 10 second interval recording to be done each minute.





***1 Interval 5 SEC/MIN:**
Record 5 seconds each minute.

***2 Interval 10 SEC/MIN:**
Record 10 seconds each minute.

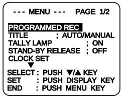
Note:

- Start time may not be set over 24 hours from current time.
- Camcorder shuts off at tape end, or 12 hours after Interval Recording starts.
- To cancel, set POWER to OFF.

Before you begin...

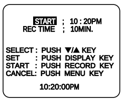
- **Connect Camcorder to power source. Use AC Adaptor for longer recordings.**
- **Insert cassette with record tab.**
- **Set POWER to CAMERA.**

1 **Press MENU for MENU mode. Press UP ▲ or DOWN ▼ to select PROGRAMMED REC.**


--- MENU --- PAGE 1/2

PROGRAMMED REC
TITLE ; AUTO/MANUAL
TALLY LAMP ; ON
STAND-BY RELEASE ; OFF
CLOCK SET
▼
SELECT : PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY
END : PUSH MENU KEY

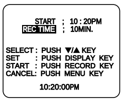
2 **Press DISPLAY.** (Current time is displayed.)
Each additional press of DISPLAY increases start time by 30 minutes.


START ; 10 : 20PM
REC TIME ; 10MIN.

SELECT : PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY
START : PUSH RECORD KEY
CANCEL: PUSH MENU KEY

10:20:00PM

3 **Press DOWN ▼ to select REC TIME. Press DISPLAY** repeatedly to select one of the options shown at the left.

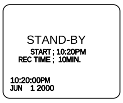

START ; 10 : 20PM
REC TIME ; 10MIN.

SELECT : PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY
START : PUSH RECORD KEY
CANCEL: PUSH MENU KEY

10:20:00PM

To cancel the setup, **press MENU twice**.

4 **Press RECORD/PAUSE** to place Camcorder in stand-by mode.

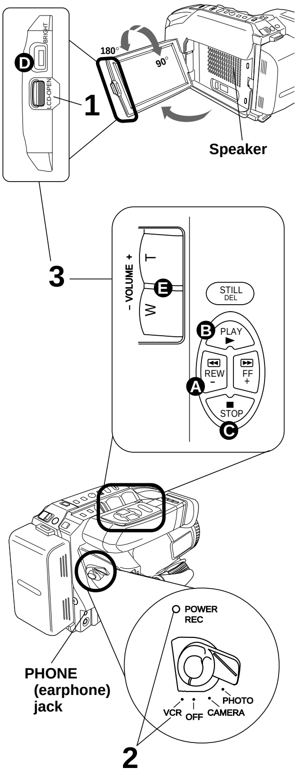

STAND-BY
START ; 10:20PM
REC TIME ; 10MIN.

10:20:00PM
JUN 1 2000

Recording will be done as scheduled.

Playing Back Recordings

Playback on EVF or LCD Monitor



Before you begin...

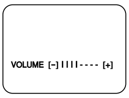
- **Connect Camcorder to power source.**
- **Insert recorded tape.**

1 **Press LCD-OPEN** and swing LCD monitor fully open.
- If you want to playback on EVF, close and lock LCD monitor.

2 **Set POWER to VCR.**
Power lamp lighs.
- If tape has no record tab, auto playback begins.
- EVF or LCD monitor turns on/off by the POWER switch.
- EVF shuts off when LCD monitor is opened and turns back on when LCD monitor is closed.

3 **Playback function buttons.**

Ⓐ **REW**(ind) : Rewind tape.
Ⓑ **PLAY** : Play tape.
Ⓒ **STOP** : Stop tape.
Ⓓ **BRIGHT** : Adjust LCD monitor brightness.
Ⓔ **VOLUME** : Adjust volume of speaker, or earphone if connected.
Press "T" : Volume up(+).
Press "W" : Volume down(-).

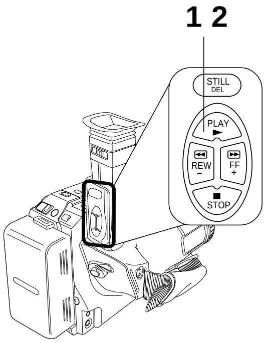

VOLUME [−] I I I I - - - - [+]

Note:

- Using LCD monitor reduces battery operating time.
- Return LCD monitor to locked position when not in use.
- When earphone (M3 type: not supplied) is connected to PHONE jack, speaker is muted.

1/2 Slow Play

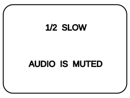
Available only with SP recordings made on this Palmcorder.



Before you begin...

- **Connect Palmcorder to power source.**
- **Insert tape recorded in SP mode.**
- **Set POWER to VCR.**

1 During playback, **press PLAY** for 1/2 Slow Play mode. Audio is muted.
- Picture noise will occur in 1/2 slow play.
- If the recorded speed changes from SP to SLP, normal speed playback is resumed.


1/2 SLOW

AUDIO IS MUTED

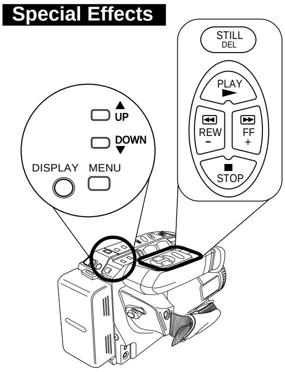
2 **Press PLAY again** to resume normal speed playback.

Note:

- Vertical jitter may occur during 1/2 slow play.
- Skew may occur at top of picture.

Playing Back Recordings (continued)

Special Effects


STILL
DEL
PLAY
REW
−
FF
+
STOP
UP
DOWN
DISPLAY
MENU

Before you begin...

- **Connect Palmcorder to power source.**
- **Insert recorded tape.**
- **Set POWER to VCR.**

Quick Visual Search

Search Speed

SP (Standard Play) : 3 times normal.
SLP (Super Long Play) : 9 times normal.

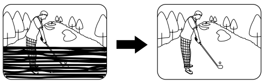
During playback, press:
FF : fast forward search
REW : rewind search
Press again or press PLAY for normal play.

Still Picture

Press STILL to freeze picture.
Press again for normal play.

Note:
- During search, horizontal noise bars will appear. Audio is muted.
- To protect video heads and tape, operating modes will revert as follows after 5 minutes:
  Still ——► Stand-by
  Stand-by —► Power off (when Battery Pack is used).
- Tape auto-rewinds if played or fast forwarded to end.

Tracking Control



Auto Tracking

Continuously analyzes each recording for optimum picture quality.

Manual Tracking

Some recordings require manual adjustment to reduce noise.

In Playback mode:
Press UP ▲ or DOWN ▼ until Playback picture clears up.
Press DISPLAY to return to Auto Tracking.

In Still mode:
Press UP ▲ or DOWN ▼ until Still picture clears up.
Press DISPLAY to return to Auto Tracking.

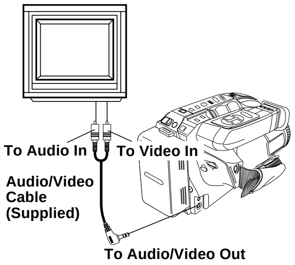
V-Lock Control

Reduces jitter in Still mode.
Hold down DISPLAY and UP ▲ or DOWN ▼ until picture is stable.

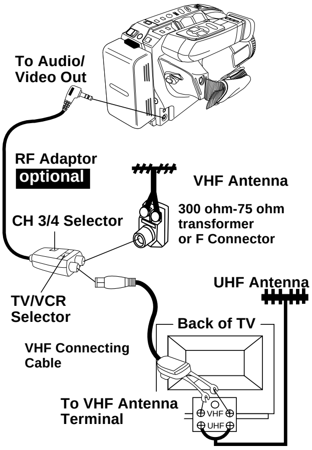
TV Playback or Viewing

Connect Camcorder to a TV to view playback or recordings in progress.

TV with AUDIO/VIDEO IN Jacks.


To Audio In
To Video In
Audio/Video Cable (Supplied)
To Audio/Video Out

TV without AUDIO/VIDEO IN Jacks.


To Audio/ Video Out
RF Adaptor
optional
VHF Antenna
CH 3/4 Selector
300 ohm-75 ohm transformer or F Connector
TV/VCR Selector
UHF Antenna
Back of TV
VHF Connecting Cable
To VHF Antenna Terminal
VHF
UHF

Before you begin...

- **Connect Camcorder to power source.**
- **Make all TV-Camcorder connections.**

1 **Set POWER to:**
VCR → view playback.
CAMERA → view picture as it is recorded.

2 **Turn TV ON and set to LINE INPUT.**
See TV owner's manual.

3 **Begin playback or recording.**

If TV has no VIDEO/AUDIO IN jacks, connect PV-RF16 RF Adaptor (optional). Tune TV to CH 3 or 4 to match RF Adaptor CH 3/4 Selector. Set Adaptor's TV/VCR Selector to VCR for playback.

To watch TV only,
a Set Camcorder POWER to OFF.
b Set RF Adaptor TV/VCR Selector to TV.
c Turn TV ON and select channel.

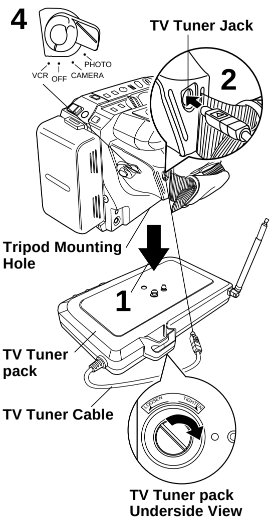
CATV System Installer

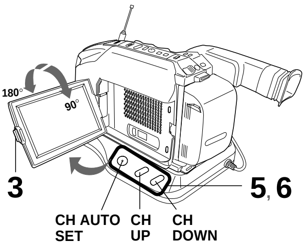
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical Code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

TV Tuner

(PV-L850)

You can watch TV when the Camcorder is attached to the TV Tuner.


4
PHOTO
VCR
OFF
CAMERA
TV Tuner Jack
2
Tripod Mounting Hole
1
TV Tuner pack
TV Tuner Cable
TV Tuner pack Underside View


180°
90°
3
5, 6
CH AUTO SET
CH UP
CH DOWN

Before you begin...

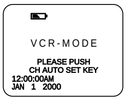
- **Connect Camcorder to power source.**

1 Attach the TV Tuner pack to the Tripod Mounting Hole on the underside of the Camcorder and fix by turning the Knob.

2 Connect the TV Tuner cable to the Camcorder TV Tuner jack.

3 **Press LCD-OPEN** and swing LCD monitor fully open. Adjust viewing angle.

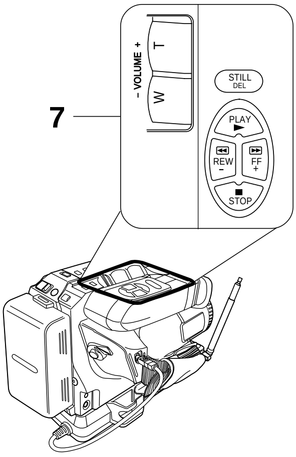
4 **Set POWER to VCR.**
This message appears for about 2 seconds.



VCR-MODE
PLEASE PUSH
CH AUTO SET KEY
12:00:00AM
JAN 1 2000

5 **Hold down CH AUTO SET** for more than 1 second to preset receivable channels.
(Takes approx. 30 seconds.)

6 **Press CH UP** or **CH DOWN** to select one channel at a time.


7
− VOLUME +
T
W
STILL
DEL
PLAY
REW
−
FF
+
STOP

7 While TV Tuner screen is displayed,

Press:

PLAY:	TV Tuner screen disappears, playback begins. **Press STOP** to return to TV Tuner screen.
FF/REW:	TV Tuner screen remains during FF/REW.
VOLUME:	Adjust volume of speaker, or earphone if connected. VOLUME indication will not appear in LCD monitor.
Press "T" :	Volume up(+).
Press "W":	Volume down(-).

Slide:

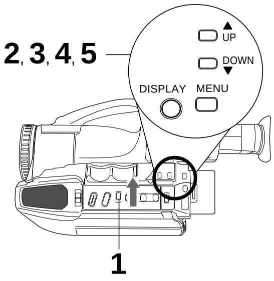
EJECT:	TV Tuner screen remains during eject. Audio is muted.

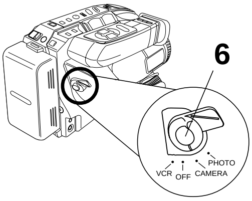
8 To resume normal Camcorder operation.
- Remove TV Tuner pack or Tuner cable
- Set Camcorder POWER to OFF or CAMERA or PHOTO.
- Warning messages, like "WARNING LOW BATTERY" or "WARNING DEW DETECTED" will only appear on the normal screen and not on the TV Tuner screen.

Note:
- TV programs cannot be recorded.
- TV Tuner dose not work alone.
- There is no exteral ANT. INPUT jack.
- Channel preset is not memorized.
- TV Tuner cannot be use with built-in DC Light due to power consumption.
- Power consumption is 2 W(approx.60 min. operation with PV-BP18).
  Can operate with an AC adapter or optional Car Battery Cord.
- If the TV Tuner is used in a moving vehicle, the picture may become distorted.

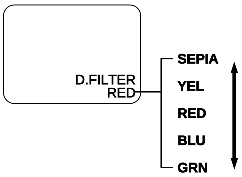
Color Digital Filter

Digital Filter adds one of 5 colors to entire picture, like a color filter.





EVF or LCD monitor

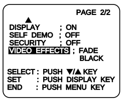


Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

1 **Slide DIGITAL SELECT to FADE.**

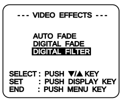
2 **Press MENU for MENU mode.**
Press UP ▲ or DOWN ▼ to select **VIDEO EFFECTS**.



```
                 PAGE 2/2
  ▲
DISPLAY       ; ON
SELF DEMO     ; OFF
SECURITY      ; OFF
VIDEO EFFECTS ; FADE
                BLACK

SELECT : PUSH ▼/▲ KEY
SET    : PUSH DISPLAY KEY
END    : PUSH MENU KEY
```

3 **Press DISPLAY** for VIDEO EFFECTS menu.
Press DOWN ▼ to select **DIGITAL FILTER**.



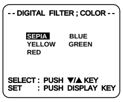
```
--- VIDEO EFFECTS ---

    AUTO FADE
    DIGITAL FADE
    DIGITAL FILTER

SELECT : PUSH ▼/▲ KEY
SET    : PUSH DISPLAY KEY
END    : PUSH MENU KEY
```

4 **Press DISPLAY** for DIGITAL FILTER menu. **Press UP ▲ or DOWN ▼** to select from 5 colors.

- A preview of each color is displayed as it is selected.



```
-- DIGITAL FILTER ; COLOR --

   SEPIA      BLUE
   YELLOW     GREEN
   RED

SELECT : PUSH ▼/▲ KEY
SET    : PUSH DISPLAY KEY
```

5 **Press DISPLAY** to confirm entry.
Press MENU to exit.

6 Start recording.

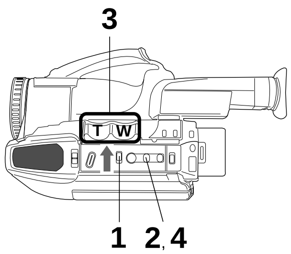
- To cancel Digital Filter, **set POWER to OFF.**

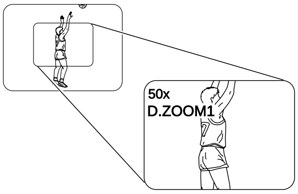
Note:

- Color Digital Filter will not function during Digital Wipe mode, Picture in Picture Wipe Title or Still/Strobe/Wide.
- Picture returns to normal in Still mode.

Digital Zoom

Power Zoom magnification is digitally increased.





Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

1 **Slide DIGITAL SELECT to D.ZOOM.**

2 **Press D. ZOOM.**

once → D.ZOOM 1 (150x maximum)
twice → D.ZOOM 2 (300x maximum)

Higher digital magnification levels may cause picture distortion.

3 **Hold down "T" on POWER ZOOM.** Digital Zoom starts when normal zoom reaches maximum (26x).

- Zoom level appears in EVF or LCD monitor.
- POWER ZOOM switch controls digital zoom level.
- Normal zoom resumes when level falls to 26x.

4 **Press D. ZOOM** to turn off Digital Zoom so no indication appears.

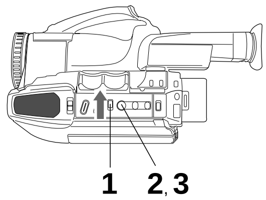
Note:

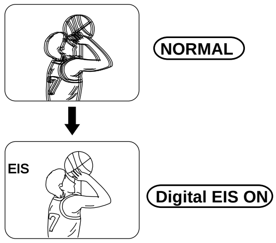
- If "NOW IN DIGITAL WIPE" is displayed when D. ZOOM is pressed, DIGITAL SELECT is currently in DIGITAL WIPE mode and the DIGITAL ZOOM feature is not available.

Digital E.I.S.

Digital Electronic Image Stabilization (E.I.S.)

Helps stabilize picture when recording in unstable situations.





Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

1 **Slide DIGITAL SELECT to EIS.**

2 **Press EIS** to display "EIS" in the EVF or LCD monitor.

- The shutter speed auto-adjusts from 1/80 to 1/350 according to brightness.
- Use High Speed Shutter if needed. Shutter speed setting remains after EIS is canceled.

3 **Press EIS again** to cancel when not in use.

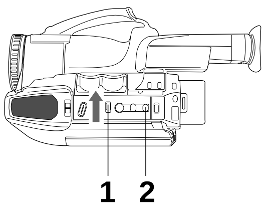
E.I.S. may not function during...

- extreme Camcorder movement.
- recording of subject with distinct horizontal or vertical stripes.
- low light situations (EIS indicator flashes).
- intense fluorescent lighting situations.
- recording of very fast motion.

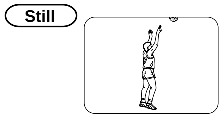
Note:

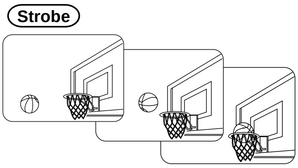
- If "NOW IN DIGITAL WIPE" is displayed when EIS is pressed, DIGITAL SELECT is currently in DIGITAL WIPE mode and the Digital E.I.S. feature is not available.

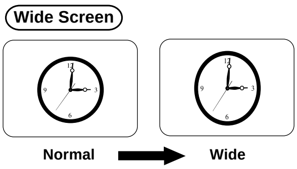
Still/ Strobe/ Wide



EVF or LCD monitor







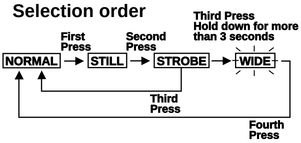
Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

1 **Slide DIGITAL SELECT to STILL/ STROBE.**

2 **Press STILL/STROBE repeatedly** for desired function as described below.

Selection order



STILL

Records a still image from the current picture.

STROBE

Records a progression of still images in 1/6 of a sec. intervals.

WIDE SCREEN

Records a picture that will fill entire screen of a wide screen (16x9 aspect ratio) TV.

- Picture appears distorted in EVF or LCD monitor.

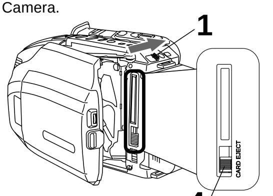
Note:

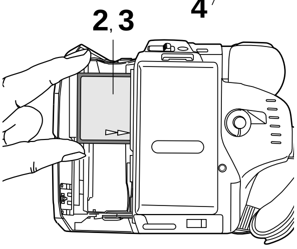
- If "NOW IN DIGITAL WIPE" is displayed when STILL/STROBE is pressed, DIGITAL SELECT is currently in DIGITAL WIPE mode and the STILL/STROBE/ WIDE feature is not available.
- Wide screen recordings must be played back on a wide screen TV (16x9 aspect ratio) or picture will be distorted.
- If title is added during Wide mode, it will be distorted when played back on a wide screen TV.

Digital Still Camera

CompactFlash Card Insertion/ Removal

The captured images will be stored on this CompactFlash Card.
Be sure to insert the CompactFlash Card before using the Built-in Digital Still Camera.





Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to OFF.**

1 **Slide TAPE EJECT** to open door.

2 Insert the **CompactFlash Card** into the CompactFlash Card Slot in the direction of the arrow. The side of the card with the arrow faces the back (battery side) of the camcorder (see the picture at the left).

3 **Push the card** fully into the Slot.

4 **Slide CARD EJECT,** to release the card.

Note:

- If CompactFlash Card is not inserted, “NO CF CARD” appears on-screen.
- Do not insert card in wrong direction.
- If card does not eject after sliding CARD EJECT, push card fully back into slot, then firmly slide the CARD EJECT again.
- To avoid dropping the card, do not slide CARD EJECT when the card slot is facing downward.

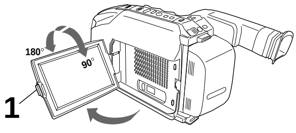
■ Concerning the CompactFlash Card

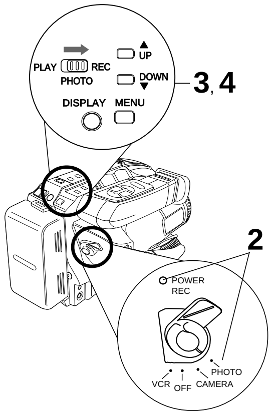
- Except for some special features, this card is compatible with other Panasonic brand products, like Digital Camera (PV-DC1080, PV-DC1580, PV-DC2090, PV-DC2590), LCD Projector (PT-L556U).
- Panasonic only guarantees compatibility with Panasonic brand cards and those bearing the SanDisk logo.
- This Camcorder can capture a maximum of 699 still images because of camera memory capacity. A larger CF card (optional) is required to capture 699 images.
  In order to capture 699 images, a CF Card memory with approx. 62 MB is needed for FINE mode and approx. 21 MB is needed for Normal mode.

CAUTION:

- Do not bend, drop, apply high pressure or subject the card to strong shocks.
- Do not store it in places with high temperature, high humidity, a lot of dust, or places exposed to direct sunlight, or static electricity and strong electromagnetic waves.
- Keep the card’s contacts free from dust, water or other foreign substances. Do not touch them with your fingers, etc.
- Do not disassemble or deform the card.
- Be sure to make a backup copy of important data.
- Do not affix other labels to the CompactFlash Card face or back as Card insertion/removal may become impossible.

Recording





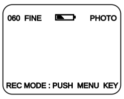
Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**

1 **Press LCD-OPEN** and swing LCD monitor fully open. Adjust viewing angle.

2 **Set POWER to PHOTO.**
Built-in Lens Cover opens and Power Lamp lights.
- Be sure POWER is fully rotated to PHOTO position.

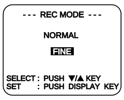
3 **Slide PHOTO MODE** to REC.



060 FINE PHOTO

REC MODE : PUSH MENU KEY

4 **Press MENU for REC Mode. Press UP ▲ or DOWN ▼** to select **NORMAL** or **FINE** . Then, **press DISPLAY** to set.



--- REC MODE ---

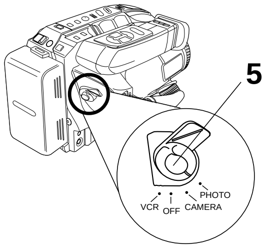
NORMAL

FINE

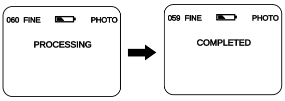
SELECT : PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY

Note:
Please note that the included 8 MB CompactFlash Card already contains 12 pre-recorded titles for your use.

Digital Still Camera (continued)



5 **Press RECORD/PAUSE** to capture image.
- As the image is processed, the status screens below appear.
  The next image may be captured after “COMPLETED” disappears.
- Depending on the image taken, the image page remaining indication may not change, or it may be decreased by 2 images.



060 FINE PHOTO
PROCESSING

059 FINE PHOTO
COMPLETED

- For sharper images, set electronic shutter to higher speed when shooting in bright conditions, such as outdoors.

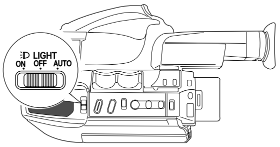
Note:

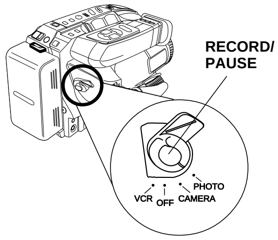
- If CompactFlash Card is not inserted, “NO CF CARD” appears on-screen. Set POWER to OFF, then insert the CompactFlash Card.
- Sound will not be recorded.
- The features below are not available while in PHOTO mode.
  - Auto Fade
  - Digital Zoom
  - Security Mode
  - Picture in Picture Wipe Title
  - Digital Fade
  - Digital E.I.S.
  - Intelligent Titler
  - Color Digital Filter
  - Still/Strobe/Wide
  - Digital Wipe Mode

WARNING:
Do not, under any circumstances, remove the card immediately after pressing the RECORD/PAUSE (during recording of an image) or while deleting. This could damage the format of the card and make it unusable.

Using the Light

For capture of still images in dim lighting.



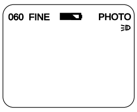


Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to PHOTO.**

Set LIGHT to AUTO.
When **RECORD/PAUSE** is pressed to capture an image in dim lighting, the Light comes on for about 2 seconds, the image is captured, then goes out.

Or, set LIGHT to ON/OFF manually.



060 FINE PHOTO
≡D

≡D appears in EVF or LCD Monitor when Light is on.

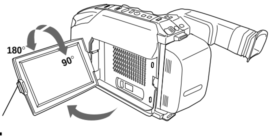
Caution:
Light becomes hot. Never cover Light while on.

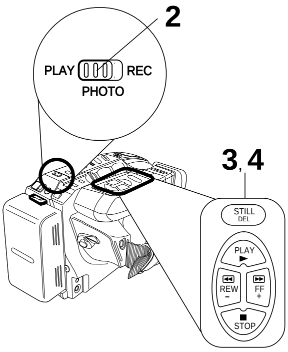
Note:

- Using Light reduces battery operating time.
- Provide proper ventilation when using Light extensively in a hot environment.
- Using Light when the Camcorder is powered by a car battery may shorten bulb life.
- Set Light to OFF when not in use.

Digital Still Camera (continued)

Playback





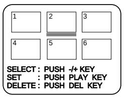
Note:
- If CompactFlash Card is not inserted, "NO CF CARD" appears on-screen. Set Power to OFF, then insert the CompactFlash Card.
- Pictures captured with other brand products cannot be used with this Camcorder.
- If "INCOMPATIBLE IMAGE" appears on-screen, the size of the captured image cannot be played back on this Camcorder.
- Do not change POWER setting to CAMERA or change recording mode while "PLEASE WAIT" is displayed.

Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to PHOTO.**

1 **Press LCD-OPEN** and swing LCD monitor fully open. Adjust viewing angle.

2 **Slide PHOTO MODE to PLAY.** The Multi Image Playback screen appears. The last captured image screen is underlined.



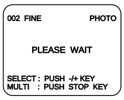
1 2 3
4 5 6
SELECT : PUSH -/+ KEY
SET : PUSH PLAY KEY
DELETE : PUSH DEL KEY

- If there are no recordings on the card, "NO PICTURE" appears on-screen.
- In NORMAL or FINE mode, the color of the Multi Image page number is as follows:

  NORMAL mode ➔ green
  FINE mode ➔ white

3 **Press + (FF) ➔ next.**
Press - (REW) ➔ previous.
- The selected image will be underlined in green.
- Continue pressing + (FF) or

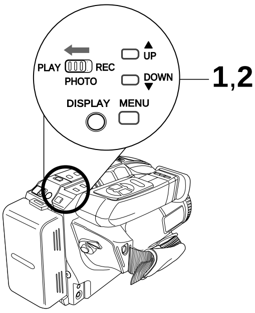
4 **Press PLAY to display image. This screen appears followed by image.**



002 FINE PHOTO
PLEASE WAIT
SELECT : PUSH -/+ KEY
MULTI : PUSH STOP KEY

- Press DISPLAY to remove or redisplay this screen.
- Press STOP to redisplay Multi Image playback screen.

Displayed Directory/Image Number

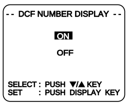


Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to PHOTO.**

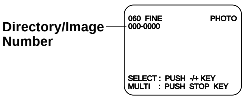
1 Repeat step 1 and 2 on previous steps to display Multi Image Playback screen. Select any image and press PLAY.

2 **Press MENU** for DCF NUMBER DISPLAY menu.
Press UP▲ or DOWN▼ to select ON or OFF. Then, **press DISPLAY** to set.



-- DCF NUMBER DISPLAY --
ON
OFF
SELECT : PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY

ON ➔ Directory/Image Number is displayed.
OFF➔ Directory/Image Number is not displayed.



Directory/Image Number

060 FINE PHOTO
000-0000
SELECT : PUSH -/+ KEY
MULTI : PUSH STOP KEY

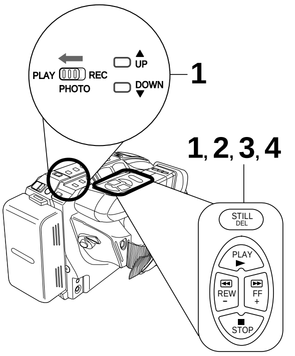
Note:
- Directory/Image Number "xxx-xxxx" (x indicates the number) is assigned automatically.
- Even if ON is set, if the Directory/Image Number dose not correspond with DCF it is not displayed.
- The Directory/Image Number becomes the folder and file name when viewed with card reader.

Digital Still Camera (continued)

Deleting Specific Image Pages

Delete older images to make room for new ones.

Important :
Once deleted, images cannot be restored.



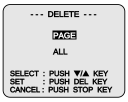
Note:
- Pictures captured with other brand products cannot be used with this Camcorder.

WARNING:
Do not, under any circumstances, remove the card immediately after pressing the RECORD/PAUSE (during recording of an image) or while deleting. This could damage the format of the card and make it unusable.

Before you begin...

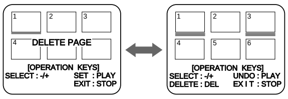
- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to PHOTO.**
  Slide PHOTO MODE to PLAY.

1 **Press DEL(STILL) for DELETE menu. Press UP ▲ or DOWN ▼** to select **PAGE**.
- To exit menu at any time, press STOP.



--- DELETE ---
PAGE
ALL
SELECT : PUSH ▼/▲ KEY
SET : PUSH DEL KEY
CANCEL : PUSH STOP KEY

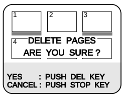
2 **Press DEL(STILL)** for Multi Image screen. **Press + (FF) or - (REW)** to select image page. **Press PLAY once to set. Or, press twice to undo.**
- **Press + (FF) or - (REW)** and **PLAY repeatedly** to select several pages at one time.
- The selected image will be underlined in green.
- You can delete images underlined in red.



1 2 3
4 DELETE PAGE
[OPERATION KEYS]
SELECT : -/+ SET : PLAY
EXIT : STOP

1 2 3
4 5 6
[OPERATION KEYS]
SELECT : -/+ UNDO : PLAY
DELETE : DEL EXIT : STOP

3 **Press DEL(STILL).** This message appears.



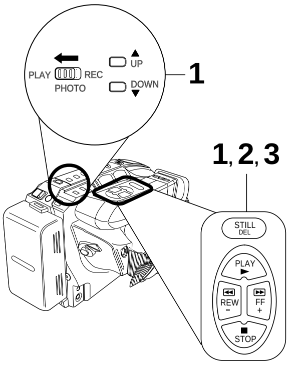
1 2 3
4 DELETE PAGES
ARE YOU SURE ?
YES : PUSH DEL KEY
CANCEL : PUSH STOP KEY

4 **Press DEL(STILL) to delete the page.**
- As image pages are deleted, page numbers adjust automatically.

Deleting All Image Pages

All image pages are deleted from memory.

Important:
Once deleted, images cannot be restored.

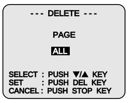


WARNING:
Do not, under any circumstances, remove the card immediately after pressing the RECORD/PAUSE (during recording of an image) or while deleting. This could damage the format of the card and make it unusable.

Before you begin...

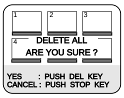
- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to PHOTO.**
  Slide PHOTO MODE to PLAY.

1 **Press DEL(STILL) for DELETE menu. Press UP ▲ or DOWN ▼** to select **ALL**.
- To exit menu at any time, press STOP.



--- DELETE ---
PAGE
ALL
SELECT : PUSH ▼/▲ KEY
SET : PUSH DEL KEY
CANCEL : PUSH STOP KEY

2 **Press DEL(STILL). This message appears.**



1 2 3
4 DELETE ALL
ARE YOU SURE ?
YES : PUSH DEL KEY
CANCEL : PUSH STOP KEY

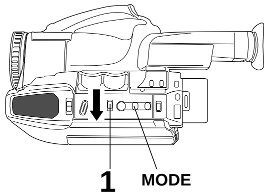
3 **Press DEL(STILL) to delete all pages.**
- "NO PICTURE" appears on-screen after deletion.

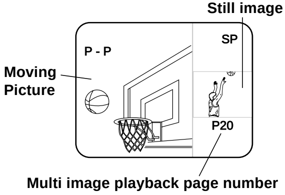
Note:
- Pictures captured with other brand products cannot be used with this Camcorder.

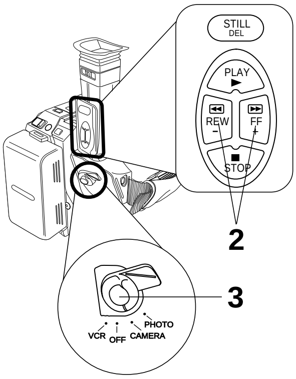
Digital Still Camera (continued)

Picture in Picture Wipe Title

Captured still images can be recorded along with the current picture.







Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to CAMERA.**

(P - P = Picture in Picture)

1 **Set DIGITAL SELECT to DIGITAL WIPE.**

- A still image captured on the CF card and the Multi image playback page number is displayed on the right side of the screen.
- If there are no recordings on the card, “NO PICTURE” appears on-screen.

2 **Press + (FF) or - (REW) to select still image to be used.**

3 Start recording.

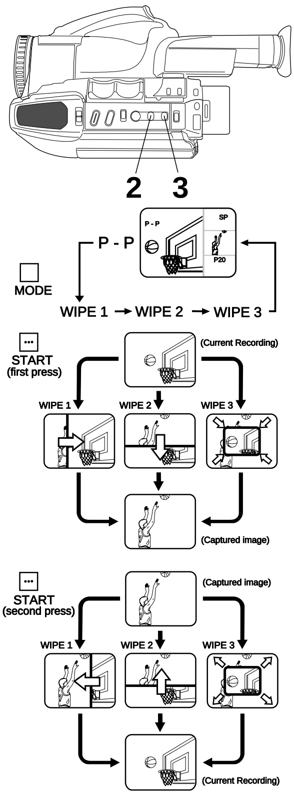
- When recording starts, Multi image playback number disappears. Then the capture still images can be recorded along with the current picture.
- To exit from the Picture in Picture Wipe title mode, **press MODE.**

Note:

- If CompactFlash Card is not inserted, “NO CF CARD” appears on-screen. Set Power to OFF, then insert the CompactFlash Card.
- Pictures captured with other brand products cannot be used with this Camcorder.
- If “INCOMPATIBLE IMAGE” appears on-screen, the size of the captured image cannot be played back on this Camcorder.
- If Picture in Picture Wipe Title selected, the following functions are not available: Security mode, Auto Fade, Digital Fade, Digital Filter, Digital Zoom, Digital E.I.S., Still/Strobe/Wide.

Digital Wipe Mode

Insert a Captured still image into the current recording, or vice versa, in one of three wipe effects.



Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to CAMERA.**

1 Repeat step 1 and 2 on previous steps to set Picture in Picture Wipe title.

2 **Press MODE repeatedly** for Wipe effect 1, 2, or 3 (See left).

- WIPE 1 will flash for a while to store the image for the wipe.

3 **Press START:**

once ➔ inserts captured image.

twice ➔ inserts current recording picture.

- You can freeze the wipe in progress by pressing START. Press START again to resume wipe.

Note:

- If CompactFlash Card is not inserted, “NO CF CARD” appears on-screen. Set Power to OFF, then insert the CompactFlash Card.
- Pictures captured with other brand products cannot be used with this Camcorder.
- If “INCOMPATIBLE IMAGE” appears on-screen, the size of the captured image cannot be played back on this Camcorder.
- If Digital Wipe mode is selected, the following functions are not available: Security mode, Auto Fade, Digital Fade, Digital Filter, Digital Zoom, Digital E.I.S., Still/Strobe/Wide.

Digital Still Camera (continued)

PhotoShot Title Library

The included 8 MB CompactFlash Card already contains 12 pre-recorded titles. You can insert any one of the 12 included pre-recorded titles into your current video recording by following the steps outlined below.

CAUTION:
If you delete the following pre-recorded titles, they will not be restored.

Before you begin...

- **Connect Camcorder to power source.**
- **Insert the CompactFlash Card.**
- **Set POWER to CAMERA.**

1 **Set DIGITAL SELECT to DIGITAL WIPE.**

2 **Press + (FF) or - (REW) to select still image to be used.**

3 Start recording.

Panasonic

Anniversary

Happy Birthday

Bon Voyage

Congratulations

Graduation

It's a Girl!

It's a Boy!

Our Wedding

Surprise!

The Wedding

Vacation!

PC Connection

Digital PhotoShot Software

A live or captured image can be transferred to your PC (Personal Computer).

System Requirements for Digital PhotoShot

- IBM PC/AT or compatible.
- Intel® Pentium® Processor
- Microsoft® Windows®95 or Windows®98.
- RAM: 16 MB or more
- 2 MB of available hard-disk space.
- 256 color monitor (full color recommended).
- 3.5 inch 1.44 MB floppy disk drive (for installation).
- RS-232C serial port (D-Sub 9-pin).
  An adaptor (D-Sub 9-pin male to a D-Sub female) is required for a D-Sub 25-pin.
- Mouse or other pointing device.

PC-Camcorder Connection

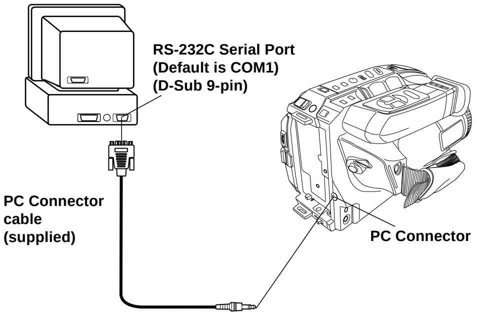
Connect Camcorder PC jack to the serial port on your PC (Personal Computer) using the supplied PC connector cable. Refer to PC or Windows manual to identify which COM port to be used for connection.

Before you begin...

- **Turn your PC off.**
- **Set Camcorder POWER to OFF.**

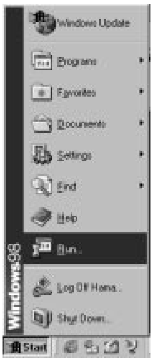
Note:

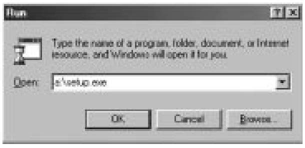
- Be sure to turn PC off before connection for properly image transfer.
- After Camcorder and PC are connected by starting up the software included, video recording is not possible.



PC Connection (continued)

Software Installation (Windows 95/98)


Windows Update
Programs
Favorites
Documents
Settings
Find
Help
Run...
Log Off Hama...
Shut Down...
Windows98
Start


Run
OK
Cancel
Browse...

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: a:\setup.exe

Before you begin...

- **Your PC is in the power on mode.**

1 Turn on PC (Personal Computer) and start up Windows.

2 **Insert Digital PhotoShot disk (Windows 95/98)** into a floppy disk drive.

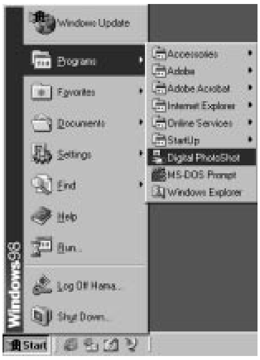
3 **Click on Start, then “Run...”**

4 **Type in a:\setup.exe and click OK.**
- If your 3.5 inch floppy disk drive is not “A”, use appropriate letter.

5 Follow instructions as they appear on PC screen until the installation is complete.
- Setup window will disappear when the installation is complete.

Note:
- Please look for Windows NT version of driver software on our website at **http://www.panasonic.com/video**.

Running the Software (Windows 95/98)


Windows Update
Programs
Favorites
Documents
Settings
Find
Help
Run...
Log Off Hama...
Shut Down...
Accessories
Adobe
Adobe Acrobat
Internet Explorer
Online Services
StartUp
Digital PhotoShot
MS-DOS Prompt
Windows Explorer
Windows98
Start

Before you begin...

- **Insert the CompactFlash Card.**
- **Make Camcorder-PC connections.**
- **Turn your PC on.**
- **Set Camcorder POWER to PHOTO.**

1 **Click on Start, then “Programs,” then “Digital PhotoShot.”**

2 **“Digital PhotoShot” is opened.**

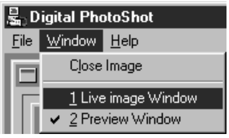
Note:
- COM Port and Baudrate are automatically selected.

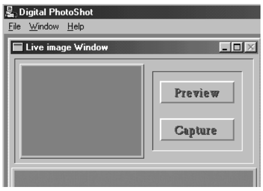
Refer to Help for information about application operation and other Error messages.

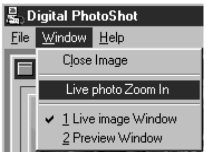
PC Connection (continued)

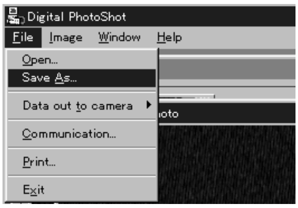
Using Live Image Data

You can capture the current Camcorder picture to your PC.


Digital PhotoShot
File
Window
Help
Close Image
1 Live image Window
✓ 2 Preview Window


Digital PhotoShot
File
Window
Help
Live image Window
Preview
Capture


Digital PhotoShot
File
Window
Help
Close Image
Live photo Zoom In
✓ 1 Live image Window
2 Preview Window


Digital PhotoShot
File
Image
Window
Help
Open...
Save As...
Data out to camera
Communication...
Print...
Exit

Before you begin...

- **Insert the CompactFlash Card.**
- **Make Camcorder-PC connections.**
- **Turn your PC on.**
- **Set Camcorder POWER to PHOTO.**

1 Repeat step 1 and 2 on previous section to run the Software.

2 **Click on “Window,” then select “1 Live image Window.”**

3 **Click on “Preview,” then Click on “Capture.”**
- Repeat this step to decide on an image.
- Captured image is transferred to your PC when “Capture” is clicked on.

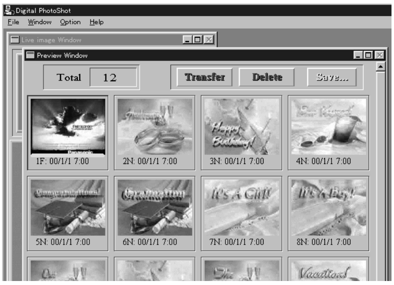
4 **Click on Window, then select Live photo Zoom In.**

5 **Click on “File,” then select “Save As.”**
- Captured image is stored to your PC.

Note:
- If, while transferring the image to your PC, the displayed picture appears abnormal, restart the PC application and turn Camcorder POWER off, and then back on.

Using CF Card Image Data

Pictures captured with Camcorder can be transferred to your PC.


Digital PhotoShot
File
Window
Option
Help
Live image Window
Preview Window
Total 12
Transfer
Delete
Save...
1F: 00/1/1 7:00
2N: 00/1/1 7:00
3N: 00/1/1 7:00
4N: 00/1/1 7:00
5N: 00/1/1 7:00
6N: 00/1/1 7:00
7N: 00/1/1 7:00
8N: 00/1/1 7:00

Note:
- If, while transferring the image to your PC, the displayed picture appears abnormal, restart the PC application and turn Camcorder POWER off, and then back on.

Before you begin...

- **Insert the CompactFlash Card.**
- **Make Camcorder-PC connections.**
- **Turn your PC on.**
- **Set Camcorder POWER to PHOTO.**

1 Run the Software.

2 **“Preview Window”** screen appears.

3 Select the image data you want to transfer to your PC.
- The selected image will be underlined in green.

4 **Click on:**

Transfer
- The picture image is transferred to your PC and displayed.

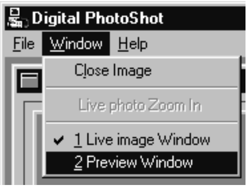
Delete
- The picture image is deleted.

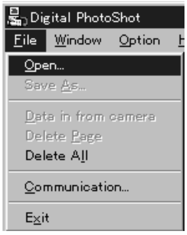
Save...
- The picture image is transferred to your PC and displayed. Save window appears.

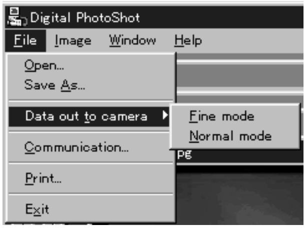
PC Connection (continued)

Using PC Image Data

You can use JPEG or Bitmap files from your PC for Picture in Picture Wipe Title and Digital Wipe by transferring them to the Camcorder using the Digital PhotoShot Software.


Digital PhotoShot
File
Window
Help
Close Image
Live photo Zoom In
1 Live image Window
2 Preview Window


Digital PhotoShot
File
Window
Option
Open...
Save As...
Data in from camera
Delete Page
Delete All
Communication...
Exit


Digital PhotoShot
File
Image
Window
Help
Open...
Save As...
Data out to camera
Fine mode
Normal mode
Communication...
Print...
Exit

Before you begin...

- **Insert the CompactFlash Card.**
- **Make Camcorder-PC connections.**
- **Turn your PC on.**
- **Set Camcorder POWER to PHOTO.**

1 Run the Software.

2 **Click on “Window,” then select “ 2 Preview Window.”**

3 **Click on “File,” then Click on “Open.”**

- At your PC, please select and open the data you want to transfer to the Camcorder.

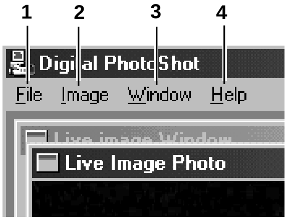
Note:

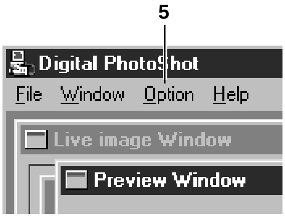
- When transferring image data larger than VGA size (640x480) from the PC to the Camcorder, the perimeter of the image is cropped to VGA size.

4 **Click on “File,” then select “Data out to camera,” then select Fine or Normal mode.**

- Your PC image data is transferred to the Camcorder.

Driver Quick Reference


1
2
3
4
Digital PhotoShot
File
Image
Window
Help
Live image Window
Live Image Photo


5
Digital PhotoShot
File
Window
Option
Help
Live image Window
Preview Window

1 File
- **Open...**
  To open an existing image (Bitmap or JPEG).
- **Save As**
  To save the active image file under a new file name while preserving the original file.
- **Data in from CAMERA**
  To display a dialog box listing all images in the CF Card memory along with Preview, Transfer, Delete, etc. commands.
- **Delete Page**
  To delete the selected image from the CF Card memory.
- **Delete All**
  To delete all images from the CF Card memory.
- **Communication**
  To specify the port to which the Camcorder is connected.
- **Print...**
  To print the currently active image.
- **Exit**
  To quit the “Digital PhotoShot” application.

2 Image
- **Image Adjustment**
  To modify the captured image as desired.
- **Copy to Clipboad**
  To copy a view image to clipboad.

3 Window
- **Close Image**
  Select “Close image” to close all view windows.
- **Live Photo Zoom In**
  To open a view window.

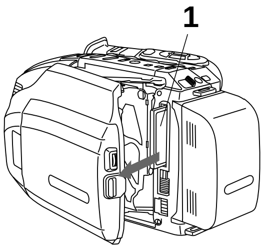
4 Help
- **Help**
  To display the Help screen.
- **About**
  To display software version information.

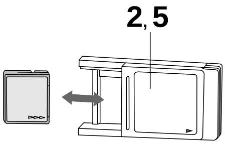
5 Option
- **Reload**
  To load the picture from the Camcorder to your PC again when Camcorder CF Card was changed.

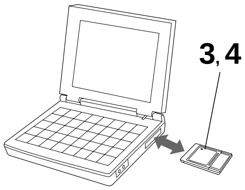
Using a PCMCIA Adaptor (optional)

If your PC has a PCMCIA type II slot, you can insert the CompactFlash Card into a PCMCIA adaptor (optional) to transfer images, captured with this Camcorder only, to your PC.

Inserting a CompactFlash







Before you begin...

- **Turn your PC on.**
- **Set Camcorder POWER to OFF.**

1 Remove the **CompactFlash Card** from the Camcorder.

2 Hold the **CompactFlash Card** so that the arrow side faces up and points toward the **PCMCIA Adaptor**. Securely insert the card into the PCMCIA Adaptor slot as far as it will go.

3 Hold the **PCMCIA Adaptor** so that the arrow side points toward the PCMCIA type II slot of **your PC (Personal Computer)**. Securely insert the PCMCIA Adaptor as far as it will go.

- Depending on the PC, it may be necessary to turn the PCMCIA Adaptor upside down in order to insert the card.

4 To remove, push the eject button on your PC (may vary by machine) and pull the **PCMCIA Adaptor** out until it is no longer inserted in the **PC (Personal Computer)**.

5 Pull the **CompactFlash Card** out of the **PCMCIA Adaptor**.

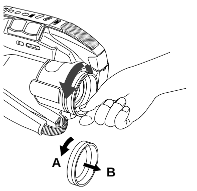
Note:

- Do not remove the PCMCIA Adaptor from the PC while the PC is working or while image data is being transferred between the CompactFlash Card and the PC (including operation such as opening and storing images), this will cause irreversible damage to the memory.
- If you change file name or folder in the CF card, the images will be displayed properly on PHOTO mode.

Operation Notes

Attaching Optional Filters and Lenses

When you remove the Lens Hood, pinch the Lens Hood and turn it counterclockwise as illustrated at right.



Then attach an optional filter or lens.

- Be careful not to touch the lens itself.
- Replace the Lens Hood after removing the accessory.

Lens Hood Area Operation Caution

With a Wide or Telephoto conversion lens (optional) attached, the four corners of the screen may darken when zoom is set to maximum wide angle.

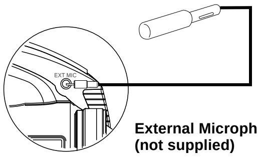
When attaching the lens hood, a Wide or Telephoto conversion lens (optional), etc. after a filter (optional) has been attached, the four corners of the screen may darken when zoom is set to maximum wide angle.

With two filters (optional) attached, the four corners of the screen may darken when zoom is set to maximum wide angle.

External MIC IN

(PV-L850)

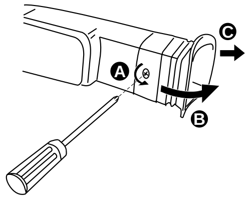
Connect an external Microphone (not supplied) using an M3 connector if necessary. The built-in microphone is automatically disconnected when an external microphone is plugged in.



External Microphone (not supplied)

Cleaning EVF (Electronic Viewfinder)

To Remove



1 Ⓐ Remove the screw with a Phillips screwdriver. Turn counterclockwise.
Ⓑ Turn the EVF Eyepiece.
Ⓒ Pull the EVF Eyepiece.

2 Remove any lint or dust particles with a soft clean cloth being careful not to scratch the glass surfaces.

3 Replace the EVF Eyepiece and the

1. **Important safety notice**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.
2. Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.
3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.
5. Test point information
   ▨ :Test point with a no test pin.

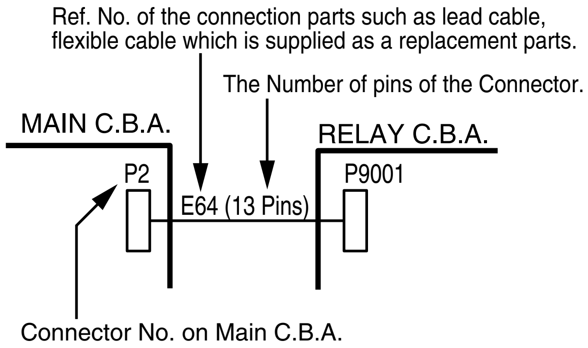
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

   Example:
   (6.2V)......Zener Voltage

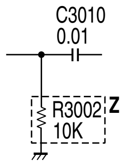
2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.
   Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between C.B.A.s are shown below.


Ref. No. of the connection parts such as lead cable, flexible cable which is supplied as a replacement parts.
The Number of pins of the Connector.
MAIN C.B.A.
RELAY C.B.A.
P2
P9001
E64 (13 Pins)
Connector No. on Main C.B.A.

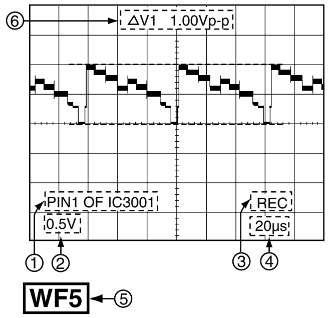
3. Parts enclosed in dashed lines marked “Z” are not used in any models included in this service manual.

Example:


C3010
0.01
R3002
10K
Z

Signal Waveform Note

How to read Signal Waveform


⑥
ΔV1 1.00Vp-p
PIN1 OF IC3001
0.5V
REC
20μs
①
②
③
④
WF5
⑤

① Connecting Point
② Volts/Div
③ Operation Mode of VCR
④ Time/Div
⑤ Waveform Point on Schematic
⑥ ΔV1:Peak to Peak

Voltage Chart Note

Voltage Measurement
a. Color bar signal in SP mode.
b. ---:Unmeasurable or not necessary to measure.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing,
please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

Comparison chart of models & marks

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

Note:
Refer to item 3 of Schematic Diagram Notes for mark “Z”.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

*1 NOTE
TO DEFEAT THE SAFETY FUNCTION, CONNECT A DIODE BETWEEN TP6010 AND TP6012, OR SELECT THE H. SAFETY DEFEAT IN SERVICE MODE. REFER TO NOTE1 OF "EXTENSION CABLES FOR SERVICE" IN SERVICE NOTES SECTION FOR MORE INFORMATION.

IC6001 KEY MATRIX CHART

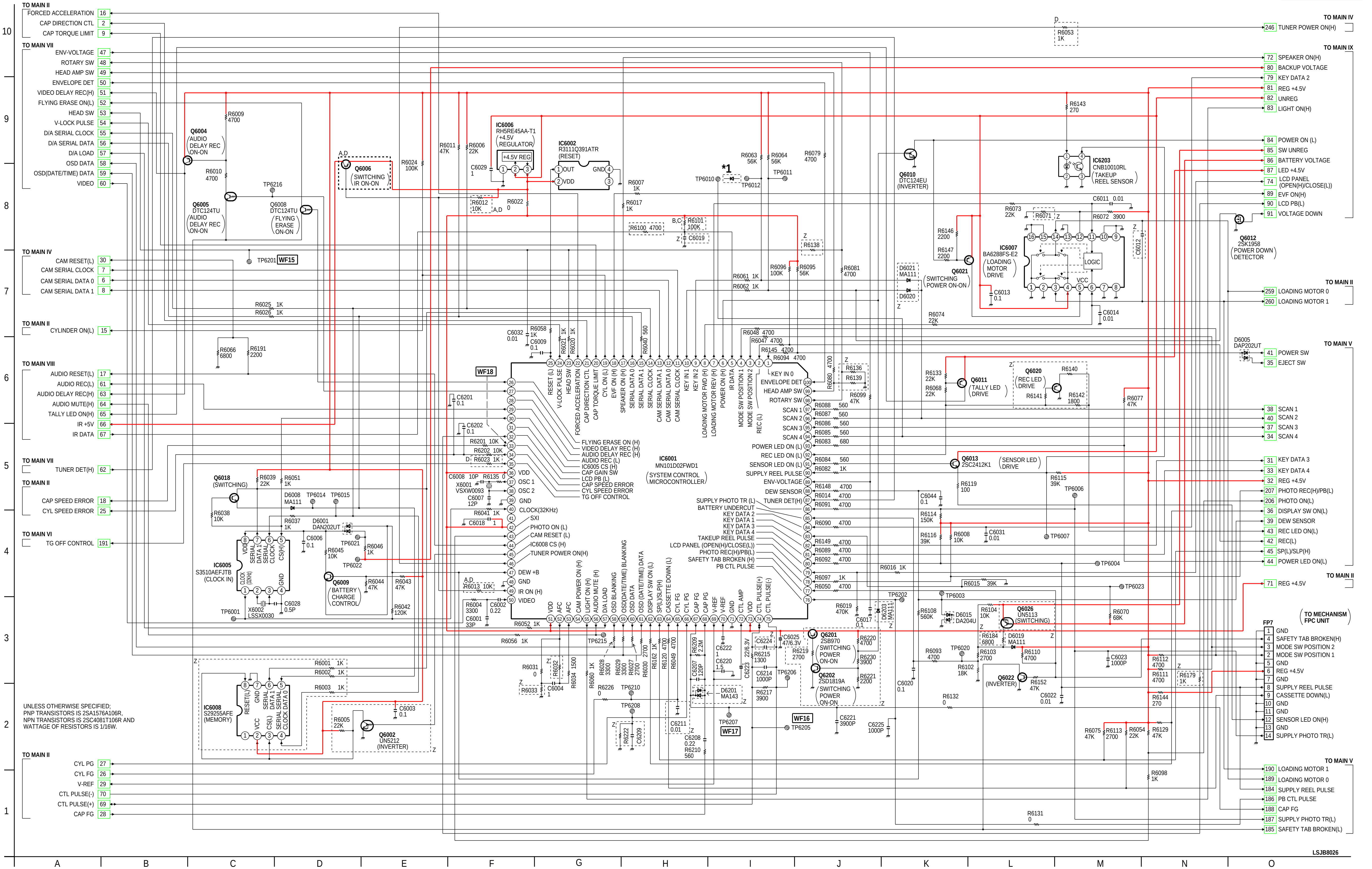
KEY IN	SCAN SCAN 1 (PIN 97)	 SCAN 2 (PIN 96)	 SCAN 3 (PIN 95)	 SCAN 4 (PIN 94)
KEY IN 0 (PIN 1)	POWER OFF	 CAMERA	 VCR	EJECT

IC6001 KEY MATRIX CHART

VOLTAGE	0~0.18V	0.72~1.08V	1.62~1.98V	2.52~2.88V	3.42~3.78V	4.32~4.50V
KEY DATA 2 (PIN 84)	STOP	PLAY	FF/SEARCH	REW/ SEARCH	STILL	------
KEY DATA 3 (PIN 82)	LIGHT (ON)	LIGHT (AUTO)	------	------	------	LIGHT (OFF)
KEY DATA 4 (PIN 81)	UP	DOWN	TITLE	------	MENU	------

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

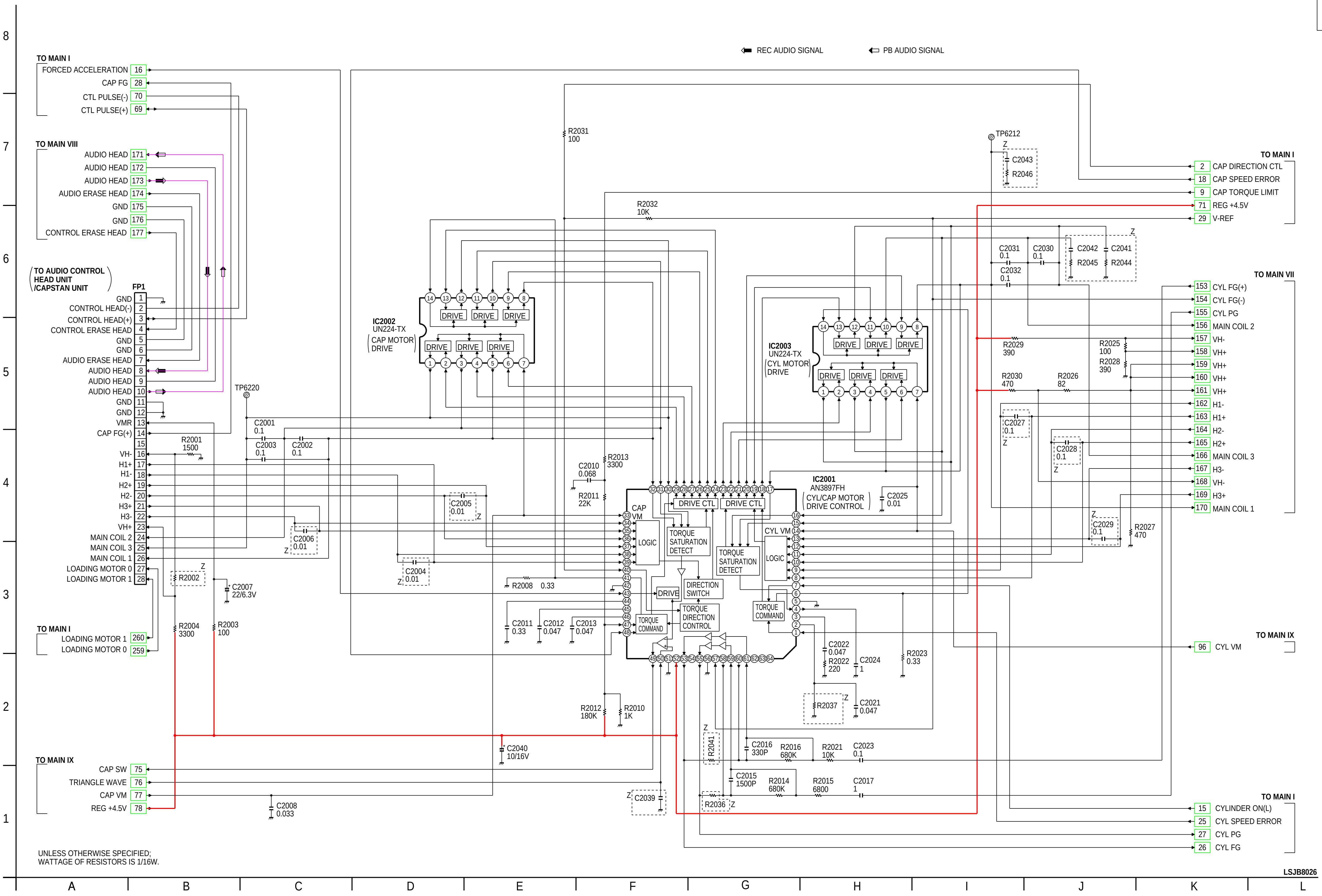


TO MAIN II
FORCED ACCELERATION 16
CAP DIRECTION CTL 2
CAP TORQUE LIMIT 9
TO MAIN VII
ENV-VOLTAGE 47
ROTARY SW 48
HEAD AMP SW 49
ENVELOPE DET 50
VIDEO DELAY REC(H) 51
FLYING ERASE ON(L) 52
HEAD SW 53
V-LOCK PULSE 54
D/A SERIAL CLOCK 55
D/A SERIAL DATA 56
D/A LOAD 57
OSD DATA 58
OSD(DATE/TIME) DATA 59
VIDEO 60
TO MAIN IV
CAM RESET(L) 30
CAM SERIAL CLOCK 7
CAM SERIAL DATA 0 6
CAM SERIAL DATA 1 8
TO MAIN II
CYLINDER ON(L) 15
TO MAIN VIII
AUDIO RESET(L) 17
AUDIO REC(L) 61
AUDIO DELAY REC(H) 63
AUDIO MUTE(H) 64
TALLY LED ON(H) 65
IR +5V 66
IR DATA 67
TO MAIN VII
TUNER DET(H) 62
TO MAIN II
CAP SPEED ERROR 18
CYL SPEED ERROR 25
TO MAIN VI
TG OFF CONTROL 191
TO MAIN II
CYL PG 27
CYL FG 26
V-REF 29
CTL PULSE(-) 70
CTL PULSE(+) 69
CAP FG 28
IC6001 MN101D02FWD1 (SYSTEM CONTROL MICROCONTROLLER)
IC6002 R3111Q391ATR (RESET)
IC6005 S3510AEFJTB (CLOCK IN)
IC6006 RH5RE45AA-T1 (+4.5V REGULATOR)
IC6007 BA6288FS-E2 (LOADING MOTOR DRIVE)
IC6008 S29255AFE (MEMORY)
IC6203 CNB10010RL (TAKEUP REEL SENSOR)
Q6002 UN5212 (INVERTER)
Q6004 (AUDIO DELAY REC ON-ON)
Q6005 DTC124TU (AUDIO DELAY REC ON-ON)
Q6006 (SWITCHING IR ON-ON)
Q6008 DTC124TU (FLYING ERASE ON-ON)
Q6009 (BATTERY CHARGE CONTROL)
Q6010 DTC124EU (INVERTER)
Q6011 (TALLY LED DRIVE)
Q6012 2SK1958 (POWER DOWN DETECTOR)
Q6013 2SC2412K1 (SENSOR LED DRIVE)
Q6018 (SWITCHING)
Q6020 (REC LED DRIVE)
Q6021 (SWITCHING POWER ON-ON)
Q6022 (INVERTER)
Q6026 UN5113 (SWITCHING)
Q6201 2SB970 (SWITCHING POWER ON-ON)
Q6202 2SD1819A (SWITCHING POWER ON-ON)
TO MAIN IV
246 TUNER POWER ON(H)
TO MAIN IX
72 SPEAKER ON(H)
80 BACKUP VOLTAGE
79 KEY DATA 2
81 REG +4.5V
82 UNREG
83 LIGHT ON(H)
84 POWER ON (L)
85 SW UNREG
86 BATTERY VOLTAGE
87 LED +4.5V
74 LCD PANEL (OPEN(H)/CLOSE(L))
89 EVF ON(H)
90 LCD PB(L)
91 VOLTAGE DOWN
TO MAIN II
259 LOADING MOTOR 0
260 LOADING MOTOR 1
TO MAIN V
41 POWER SW
35 EJECT SW
38 SCAN 1
40 SCAN 2
37 SCAN 3
34 SCAN 4
31 KEY DATA 3
33 KEY DATA 4
32 REG +4.5V
207 PHOTO REC(H)/PB(L)
206 PHOTO ON(L)
36 DISPLAY SW ON(L)
39 DEW SENSOR
43 REC LED ON(L)
42 REC(L)
45 SP(L)/SLP(H)
44 POWER LED ON(L)
TO MAIN II
71 REG +4.5V
FP7
TO MECHANISM FPC UNIT
1 GND
4 SAFETY TAB BROKEN(H)
3 MODE SW POSITION 2
2 MODE SW POSITION 1
5 GND
6 REG +4.5V
7 GND
8 SUPPLY REEL PULSE
9 CASSETTE DOWN(L)
10 GND
11 GND
12 SENSOR LED ON(H)
13 GND
14 SUPPLY PHOTO TR(L)
TO MAIN V
190 LOADING MOTOR 1
189 LOADING MOTOR 0
184 SUPPLY REEL PULSE
186 PB CTL PULSE
188 CAP FG
187 SUPPLY PHOTO TR(L)
185 SAFETY TAB BROKEN(L)
WF15
WF16
WF17
WF18
*1
UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R AND
WATTAGE OF RESISTORS IS 1/16W.
LSJB8026

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

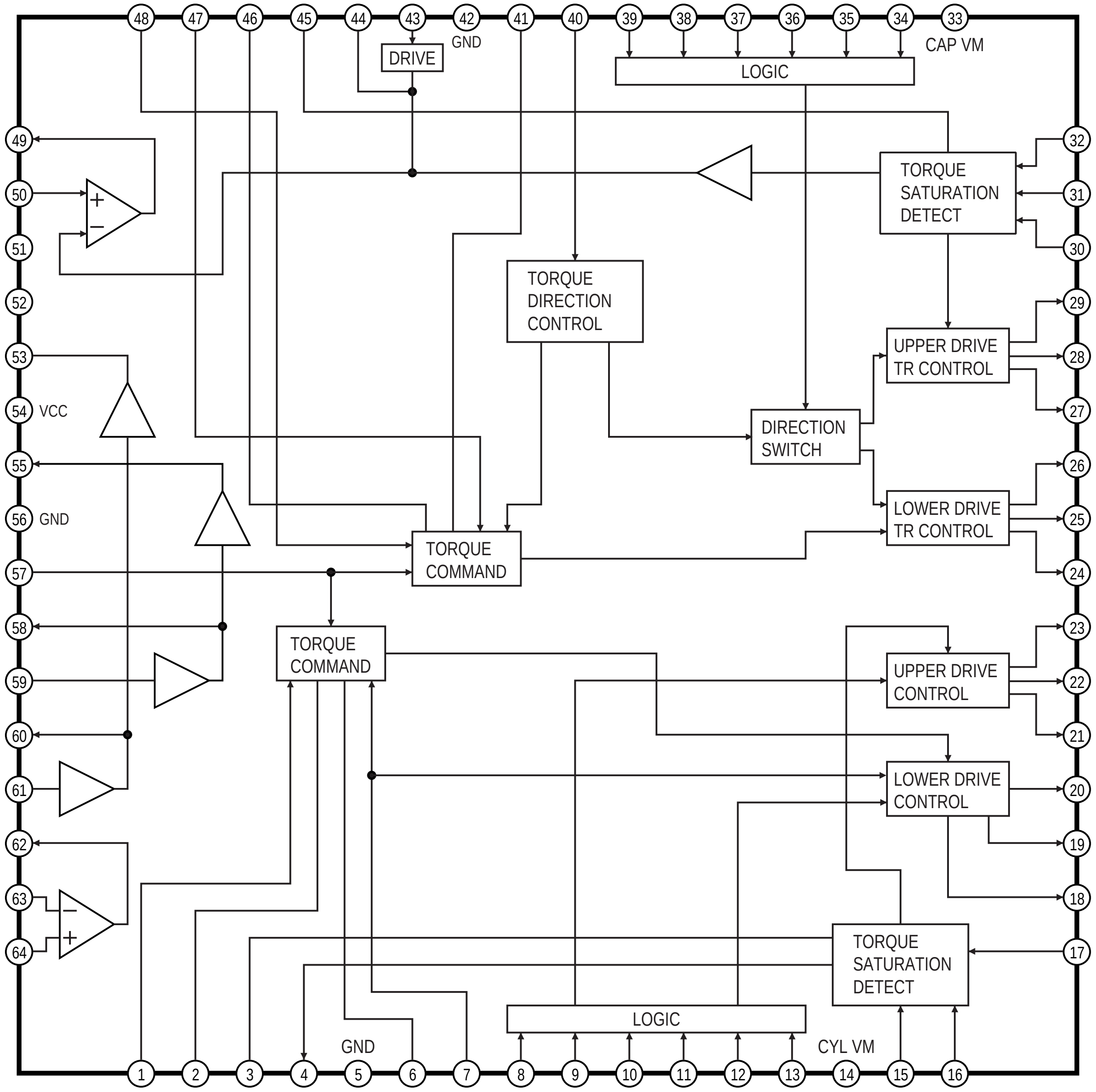


REC AUDIO SIGNAL
PB AUDIO SIGNAL
TO MAIN I
FORCED ACCELERATION 16
CAP FG 28
CTL PULSE(-) 70
CTL PULSE(+) 69
TO MAIN VIII
AUDIO HEAD 171
AUDIO HEAD 172
AUDIO HEAD 173
AUDIO ERASE HEAD 174
GND 175
GND 176
CONTROL ERASE HEAD 177
TO AUDIO CONTROL HEAD UNIT /CAPSTAN UNIT
FP1
GND 1
CONTROL HEAD(-) 2
CONTROL HEAD(+) 3
CONTROL ERASE HEAD 4
GND 5
GND 6
AUDIO ERASE HEAD 7
AUDIO HEAD 8
AUDIO HEAD 9
AUDIO HEAD 10
GND 11
GND 12
VMR 13
CAP FG(+) 14
15
VH- 16
H1+ 17
H1- 18
H2+ 19
H2- 20
H3+ 21
H3- 22
VH+ 23
MAIN COIL 2 24
MAIN COIL 3 25
MAIN COIL 1 26
LOADING MOTOR 0 27
LOADING MOTOR 1 28
TO MAIN I
LOADING MOTOR 1 260
LOADING MOTOR 0 259
TO MAIN IX
CAP SW 75
TRIANGLE WAVE 76
CAP VM 77
REG +4.5V 78
TP6220
R2001 1500
C2001 0.1
C2003 0.1
C2002 0.1
C2005 0.01 Z
C2006 0.01 Z
C2004 0.01 Z
R2002 Z
C2007 22/6.3V
R2004 3300
R2003 100
C2008 0.033
C2040 10/16V
R2031 100
R2032 10K
IC2002
UN224-TX
CAP MOTOR DRIVE
DRIVE
R2013 3300
C2010 0.068
R2011 22K
R2008 0.33
C2011 0.33
C2012 0.047
C2013 0.047
R2012 180K
R2010 1K
C2039 Z
IC2001
AN3897FH
CYL/CAP MOTOR DRIVE CONTROL
CAP VM
LOGIC
TORQUE SATURATION DETECT
DRIVE CTL
DIRECTION SWITCH
DRIVE
TORQUE DIRECTION CONTROL
TORQUE COMMAND
CYL VM
C2025 0.01
R2041 Z
R2036 Z
C2016 330P
C2015 1500P
R2016 680K
R2014 680K
R2021 10K
R2015 6800
C2023 0.1
C2017 1
C2022 0.047
R2022 220
C2024 1
R2037 Z
C2021 0.047
R2023 0.33
IC2003
UN224-TX
CYL MOTOR DRIVE
TP6212
Z
C2043
R2046
C2031 0.1
C2030 0.1
C2032 0.1
C2042
C2041
R2045
R2044
R2029 390
R2025 100
R2028 390
R2030 470
R2026 82
C2027 0.1 Z
C2028 0.1 Z
C2029 0.1 Z
R2027 470
TO MAIN I
CAP DIRECTION CTL 2
CAP SPEED ERROR 18
CAP TORQUE LIMIT 9
REG +4.5V 71
V-REF 29
TO MAIN VII
CYL FG(+) 153
CYL FG(-) 154
CYL PG 155
MAIN COIL 2 156
VH- 157
VH+ 158
VH+ 159
VH+ 160
VH+ 161
H1- 162
H1+ 163
H2- 164
H2+ 165
MAIN COIL 3 166
H3- 167
VH- 168
H3+ 169
MAIN COIL 1 170
TO MAIN IX
CYL VM 96
TO MAIN I
CYLINDER ON(L) 15
CYL SPEED ERROR 25
CYL PG 27
CYL FG 26
8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
K
L

UNLESS OTHERWISE SPECIFIED;
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

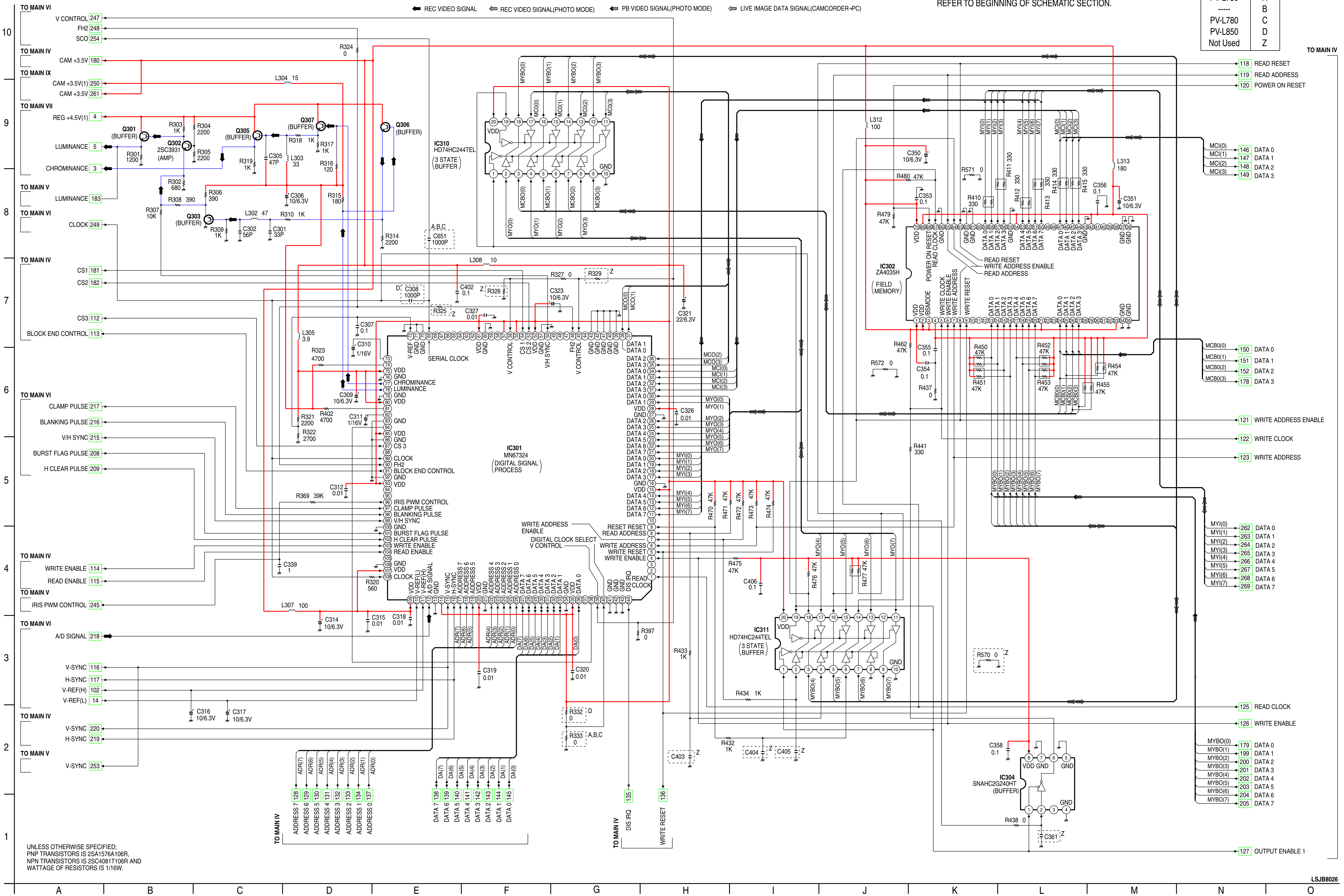
IC2001 CYLINDER/CAPSTAN MOTOR DRIVE CONTROL IC-DETAIL BLOCK DIAGRAM, AN3897FH


48
47
46
45
44
43
42
GND
41
40
39
38
37
36
35
34
33
CAP VM
DRIVE
LOGIC
TORQUE SATURATION DETECT
TORQUE DIRECTION CONTROL
UPPER DRIVE TR CONTROL
DIRECTION SWITCH
LOWER DRIVE TR CONTROL
TORQUE COMMAND
TORQUE COMMAND
UPPER DRIVE CONTROL
LOWER DRIVE CONTROL
TORQUE SATURATION DETECT
LOGIC
49
50
51
52
53
54
VCC
55
56
GND
57
58
59
60
61
62
63
64
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
1
2
3
4
5
GND
6
7
8
9
10
11
12
13
14
CYL VM
15
16

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



REC VIDEO SIGNAL
REC VIDEO SIGNAL(PHOTO MODE)
PB VIDEO SIGNAL(PHOTO MODE)
LIVE IMAGE DATA SIGNAL(CAMCORDER→PC)
TO MAIN VI
V CONTROL 247
FH2 248
SCO 254
TO MAIN IV
CAM +3.5V 180
TO MAIN IX
CAM +3.5V(1) 250
CAM +3.5V 261
TO MAIN VII
REG +4.5V(1) 4
LUMINANCE 5
CHROMINANCE 3
TO MAIN V
LUMINANCE 183
TO MAIN VI
CLOCK 249
TO MAIN IV
CS1 181
CS2 182
CS3 112
BLOCK END CONTROL 113
TO MAIN VI
CLAMP PULSE 217
BLANKING PULSE 216
V/H SYNC 215
BURST FLAG PULSE 208
H CLEAR PULSE 209
TO MAIN IV
WRITE ENABLE 114
READ ENABLE 115
IRIS PWM CONTROL 245
TO MAIN VI
A/D SIGNAL 218
V-SYNC 116
H-SYNC 117
V-REF(H) 102
V-REF(L) 14
TO MAIN IV
V-SYNC 220
H-SYNC 219
TO MAIN V
V-SYNC 253
Q301 (BUFFER)
Q302 2SC3931 (AMP)
Q303 (BUFFER)
Q305 (BUFFER)
Q306 (BUFFER)
Q307 (BUFFER)
IC310 HD74HC244TEL (3 STATE BUFFER)
IC301 MN67324 (DIGITAL SIGNAL PROCESS)
IC302 ZA4035H (FIELD MEMORY)
IC311 HD74HC244TEL (3 STATE BUFFER)
IC304 SNAHC2G240HT (BUFFER)
TO MAIN IV
ADDRESS 7 128
ADDRESS 6 129
ADDRESS 5 130
ADDRESS 4 131
ADDRESS 3 132
ADDRESS 2 133
ADDRESS 1 134
ADDRESS 0 137
DATA 7 138
DATA 6 139
DATA 5 140
DATA 4 141
DATA 3 142
DATA 2 143
DATA 1 144
DATA 0 145
TO MAIN IV
DIS IRQ 135
WRITE RESET 136
TO MAIN IV
118 READ RESET
119 READ ADDRESS
120 POWER ON RESET
146 DATA 0
147 DATA 1
148 DATA 2
149 DATA 3
150 DATA 0
151 DATA 1
152 DATA 2
178 DATA 3
121 WRITE ADDRESS ENABLE
122 WRITE CLOCK
123 WRITE ADDRESS
262 DATA 0
263 DATA 1
264 DATA 2
265 DATA 3
266 DATA 4
267 DATA 5
268 DATA 6
269 DATA 7
125 READ CLOCK
126 WRITE ENABLE
179 DATA 0
199 DATA 1
200 DATA 2
201 DATA 3
202 DATA 4
203 DATA 5
204 DATA 6
205 DATA 7
127 OUTPUT ENABLE 1
10
9
8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R AND
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

IC504 KEY MATRIX CHART

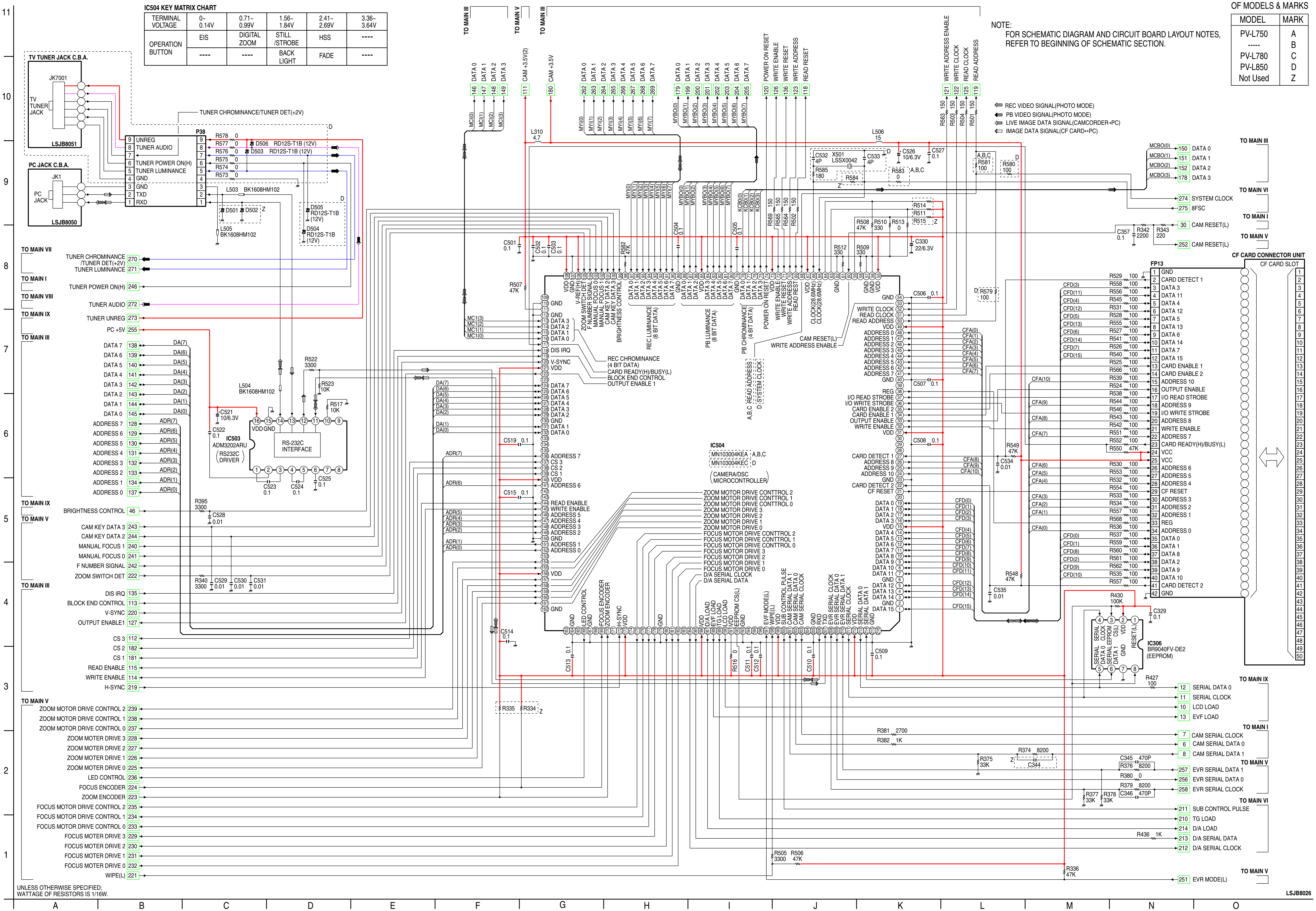
TERMINAL VOLTAGE	0~ 0.14V	0.71~ 0.99V	1.56~ 1.84V	2.41~ 2.69V	3.36~ 3.64V
OPERATION BUTTON	EIS	DIGITAL ZOOM	STILL /STROBE	HSS	----
	----	----	BACK LIGHT	FADE	----

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

⇦ REC VIDEO SIGNAL(PHOTO MODE)
◀ PB VIDEO SIGNAL(PHOTO MODE)
⇦ LIVE IMAGE DATA SIGNAL(CAMCORDER→PC)
⇦ IMAGE DATA SIGNAL(CF CARD↔PC)



TV TUNER JACK C.B.A.
JK7001
TV TUNER JACK
LSJB8051
PC JACK C.B.A.
JK1
PC JACK
LSJB8050
P38
UNREG
TUNER AUDIO
TUNER POWER ON(H)
TUNER LUMINANCE
GND
TXD
RXD
TUNER CHROMINANCE/TUNER DET(+2V)
D506 RD12S-T1B (12V)
D503 RD12S-T1B (12V)
D505 RD12S-T1B (12V)
D504 RD12S-T1B (12V)
D501
D502
L503 BK1608HM102
L505 BK1608HM102
L504 BK1608HM102
IC503
ADM3202ARU
(RS232C DRIVER)
RS-232C INTERFACE
TO MAIN VII
TUNER CHROMINANCE /TUNER DET(+2V)
TUNER LUMINANCE
TO MAIN I
TUNER POWER ON(H)
TO MAIN VIII
TUNER AUDIO
TO MAIN IX
TUNER UNREG
TO MAIN III
PC +5V
DATA 7
DATA 6
DATA 5
DATA 4
DATA 3
DATA 2
DATA 1
DATA 0
ADDRESS 7
ADDRESS 6
ADDRESS 5
ADDRESS 4
ADDRESS 3
ADDRESS 2
ADDRESS 1
ADDRESS 0
TO MAIN IX
BRIGHTNESS CONTROL
TO MAIN V
CAM KEY DATA 3
CAM KEY DATA 2
MANUAL FOCUS 1
MANUAL FOCUS 0
F NUMBER SIGNAL
ZOOM SWITCH DET
TO MAIN III
DIS IRQ
BLOCK END CONTROL
V-SYNC
OUTPUT ENABLE1
CS 3
CS 2
CS 1
READ ENABLE
WRITE ENABLE
H-SYNC
TO MAIN V
ZOOM MOTOR DRIVE CONTROL 2
ZOOM MOTOR DRIVE CONTROL 1
ZOOM MOTOR DRIVE CONTROL 0
ZOOM MOTER DRIVE 3
ZOOM MOTER DRIVE 2
ZOOM MOTER DRIVE 1
ZOOM MOTER DRIVE 0
LED CONTROL
FOCUS ENCODER
ZOOM ENCODER
FOCUS MOTOR DRIVE CONTROL 2
FOCUS MOTOR DRIVE CONTROL 1
FOCUS MOTOR DRIVE CONTROL 0
FOCUS MOTER DRIVE 3
FOCUS MOTER DRIVE 2
FOCUS MOTER DRIVE 1
FOCUS MOTER DRIVE 0
WIPE(L)
IC504
MN103004KEA A,B,C
MN103004KEC D
(CAMERA/DSC MICROCONTROLLER)
REC CHROMINANCE (4 BIT DATA)
CARD READY(H)/BUSY(L)
BLOCK END CONTROL
OUTPUT ENABLE 1
REC LUMINANCE (8 BIT DATA)
PB LUMINANCE (8 BIT DATA)
PB CHROMINANCE (4 BIT DATA)
CAM RESET(L)
WRITE ADDRESS ENABLE
READ ADDRESS
SYSTEM CLOCK
X501 LSSX0042
TO MAIN III
DATA 0
DATA 1
DATA 2
DATA 3
TO MAIN VI
SYSTEM CLOCK
8FSC
TO MAIN I
CAM RESET(L)
TO MAIN V
CAM RESET(L)
CF CARD CONNECTOR UNIT
FP13
CF CARD SLOT
GND
CARD DETECT 1
CARD ENABLE 1
CARD ENABLE 2
ADDRESS 10
OUTPUT ENABLE
I/O READ STROBE
I/O WRITE STROBE
WRITE ENABLE
CARD READY(H)/BUSY(L)
VCC
CF RESET
REG
CARD DETECT 2
IC306
BR9040FV-DE2
(EEPROM)
TO MAIN IX
SERIAL DATA 0
SERIAL CLOCK
LCD LOAD
EVF LOAD
TO MAIN I
CAM SERIAL CLOCK
CAM SERIAL DATA 0
CAM SERIAL DATA 1
TO MAIN V
EVR SERIAL DATA 1
EVR SERIAL DATA 0
EVR SERIAL CLOCK
TO MAIN VI
SUB CONTROL PULSE
TG LOAD
D/A LOAD
D/A SERIAL DATA
D/A SERIAL CLOCK
TO MAIN V
EVR MODE(L)
TO MAIN III
TO MAIN V
TO MAIN III
CAM +3.5V(2)
CAM +3.5V
POWER ON RESET
WRITE ENABLE
WRITE RESET
WRITE ADDRESS
READ RESET
WRITE ADDRESS ENABLE
WRITE CLOCK
READ CLOCK
READ ADDRESS

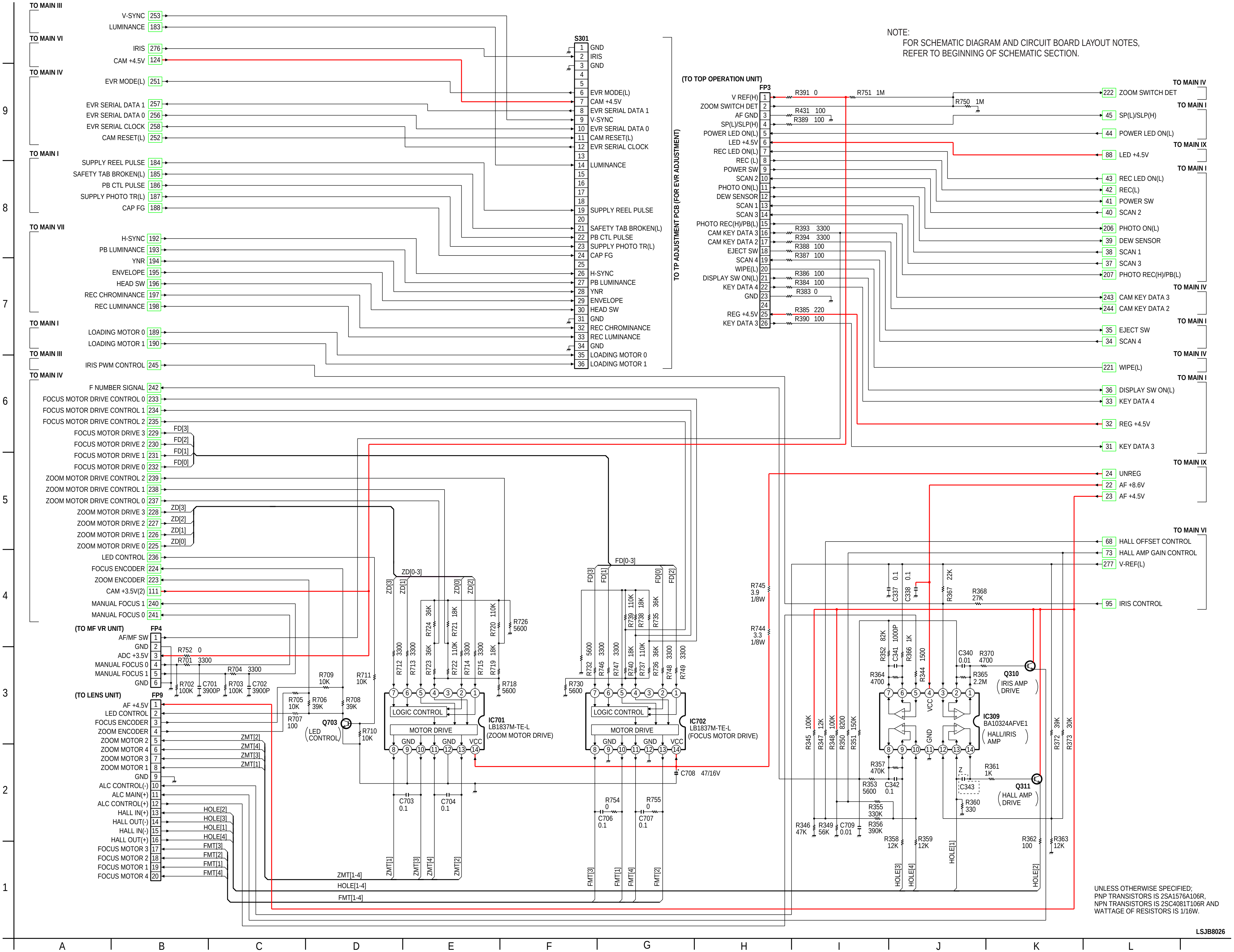
UNLESS OTHERWISE SPECIFIED;
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z


TO MAIN III
V-SYNC 253
LUMINANCE 183
TO MAIN VI
IRIS 276
CAM +4.5V 124
TO MAIN IV
EVR MODE(L) 251
EVR SERIAL DATA 1 257
EVR SERIAL DATA 0 256
EVR SERIAL CLOCK 258
CAM RESET(L) 252
TO MAIN I
SUPPLY REEL PULSE 184
SAFETY TAB BROKEN(L) 185
PB CTL PULSE 186
SUPPLY PHOTO TR(L) 187
CAP FG 188
TO MAIN VII
H-SYNC 192
PB LUMINANCE 193
YNR 194
ENVELOPE 195
HEAD SW 196
REC CHROMINANCE 197
REC LUMINANCE 198
TO MAIN I
LOADING MOTOR 0 189
LOADING MOTOR 1 190
TO MAIN III
IRIS PWM CONTROL 245
TO MAIN IV
F NUMBER SIGNAL 242
FOCUS MOTOR DRIVE CONTROL 0 233
FOCUS MOTOR DRIVE CONTROL 1 234
FOCUS MOTOR DRIVE CONTROL 2 235
FOCUS MOTOR DRIVE 3 229
FOCUS MOTOR DRIVE 2 230
FOCUS MOTOR DRIVE 1 231
FOCUS MOTOR DRIVE 0 232
ZOOM MOTOR DRIVE CONTROL 2 239
ZOOM MOTOR DRIVE CONTROL 1 238
ZOOM MOTOR DRIVE CONTROL 0 237
ZOOM MOTOR DRIVE 3 228
ZOOM MOTOR DRIVE 2 227
ZOOM MOTOR DRIVE 1 226
ZOOM MOTOR DRIVE 0 225
LED CONTROL 236
FOCUS ENCODER 224
ZOOM ENCODER 223
CAM +3.5V(2) 111
MANUAL FOCUS 1 240
MANUAL FOCUS 0 241
FD[3] FD[2] FD[1] FD[0]
ZD[3] ZD[2] ZD[1] ZD[0]
S301
1 GND
2 IRIS
3 GND
4
5
6 EVR MODE(L)
7 CAM +4.5V
8 EVR SERIAL DATA 1
9 V-SYNC
10 EVR SERIAL DATA 0
11 CAM RESET(L)
12 EVR SERIAL CLOCK
13
14 LUMINANCE
15
16
17
18
19 SUPPLY REEL PULSE
20
21 SAFETY TAB BROKEN(L)
22 PB CTL PULSE
23 SUPPLY PHOTO TR(L)
24 CAP FG
25
26 H-SYNC
27 PB LUMINANCE
28 YNR
29 ENVELOPE
30 HEAD SW
31 GND
32 REC CHROMINANCE
33 REC LUMINANCE
34 GND
35 LOADING MOTOR 0
36 LOADING MOTOR 1
TO TP ADJUSTMENT PCB (FOR EVR ADJUSTMENT)
(TO TOP OPERATION UNIT)
FP3
V REF(H) 1
ZOOM SWITCH DET 2
AF GND 3
SP(L)/SLP(H) 4
POWER LED ON(L) 5
LED +4.5V 6
REC LED ON(L) 7
REC (L) 8
POWER SW 9
SCAN 2 10
PHOTO ON(L) 11
DEW SENSOR 12
SCAN 1 13
SCAN 3 14
PHOTO REC(H)/PB(L) 15
CAM KEY DATA 3 16
CAM KEY DATA 2 17
EJECT SW 18
SCAN 4 19
WIPE(L) 20
DISPLAY SW ON(L) 21
KEY DATA 4 22
GND 23
24
REG +4.5V 25
KEY DATA 3 26
R391 0
R751 1M
R750 1M
R431 100
R389 100
R393 3300
R394 3300
R388 100
R387 100
R386 100
R384 100
R383 0
R385 220
R390 100
TO MAIN IV
222 ZOOM SWITCH DET
TO MAIN I
45 SP(L)/SLP(H)
44 POWER LED ON(L)
TO MAIN IX
88 LED +4.5V
TO MAIN I
43 REC LED ON(L)
42 REC(L)
41 POWER SW
40 SCAN 2
206 PHOTO ON(L)
39 DEW SENSOR
38 SCAN 1
37 SCAN 3
207 PHOTO REC(H)/PB(L)
TO MAIN IV
243 CAM KEY DATA 3
244 CAM KEY DATA 2
TO MAIN I
35 EJECT SW
34 SCAN 4
TO MAIN IV
221 WIPE(L)
TO MAIN I
36 DISPLAY SW ON(L)
33 KEY DATA 4
32 REG +4.5V
31 KEY DATA 3
TO MAIN IX
24 UNREG
22 AF +8.6V
23 AF +4.5V
TO MAIN VI
68 HALL OFFSET CONTROL
73 HALL AMP GAIN CONTROL
277 V-REF(L)
95 IRIS CONTROL
(TO MF VR UNIT)
FP4
AF/MF SW 1
GND 2
ADC +3.5V 3
MANUAL FOCUS 0 4
MANUAL FOCUS 1 5
GND 6
R752 0
R701 3300
R704 3300
R702 100K
C701 3900P
R703 100K
C702 3900P
(TO LENS UNIT)
FP9
AF +4.5V 1
LED CONTROL 2
FOCUS ENCODER 3
ZOOM ENCODER 4
ZOOM MOTOR 2 5
ZOOM MOTOR 4 6
ZOOM MOTOR 3 7
ZOOM MOTOR 1 8
GND 9
ALC CONTROL(-) 10
ALC MAIN(+) 11
ALC CONTROL(+) 12
HALL IN(+) 13
HALL OUT(-) 14
HALL IN(-) 15
HALL OUT(+) 16
FOCUS MOTOR 3 17
FOCUS MOTOR 2 18
FOCUS MOTOR 1 19
FOCUS MOTOR 4 20
ZMT[2] ZMT[4] ZMT[3] ZMT[1]
HOLE[2] HOLE[3] HOLE[1] HOLE[4]
FMT[3] FMT[2] FMT[1] FMT[4]
ZMT[1-4]
HOLE[1-4]
FMT[1-4]
R705 10K
R706 39K
R707 100
R708 39K
R709 10K
R711 10K
R710 10K
Q703
(LED CONTROL)
ZD[0-3]
ZD[3] ZD[1] ZD[0] ZD[2]
R712 3300
R713 3300
R724 36K
R723 36K
R721 18K
R722 110K
R714 3300
R715 3300
R720 110K
R719 18K
R726 5600
R718 5600
LOGIC CONTROL
MOTOR DRIVE
GND GND VCC
IC701
LB1837M-TE-L
(ZOOM MOTOR DRIVE)
C703 0.1
C704 0.1
FD[0-3]
FD[3] FD[1] FD[0] FD[2]
R730 5600
R732 5600
R746 3300
R747 3300
R740 18K
R739 110K
R737 110K
R738 18K
R736 36K
R735 36K
R748 3300
R749 3300
IC702
LB1837M-TE-L
(FOCUS MOTOR DRIVE)
C708 47/16V
R754 0
R755 0
C706 0.1
C707 0.1
R745 3.9 1/8W
R744 3.3 1/8W
C337 0.1
C338 0.1
R367 22K
R368 27K
R352 82K
C341 1000P
R366 1K
R344 1500
R364 4700
C340 0.01
R370 4700
R365 2.2M
Q310
(IRIS AMP DRIVE)
IC309
BA10324AFVE1
(HALL/IRIS AMP)
VCC
GND
R357 470K
R353 5600
C342 0.1
R361 1K
C343
Z
Q311
(HALL AMP DRIVE)
R360 330
R345 100K
R347 12K
R348 100K
R350 8200
R351 150K
R355 330K
R356 390K
R346 47K
R349 56K
C709 0.01
R358 12K
R359 12K
R362 100
R363 12K
R372 39K
R373 30K
HOLE[1]
HOLE[3]
HOLE[4]
HOLE[2]
A B C D E F G H I J K L
1 2 3 4 5 6 7 8 9

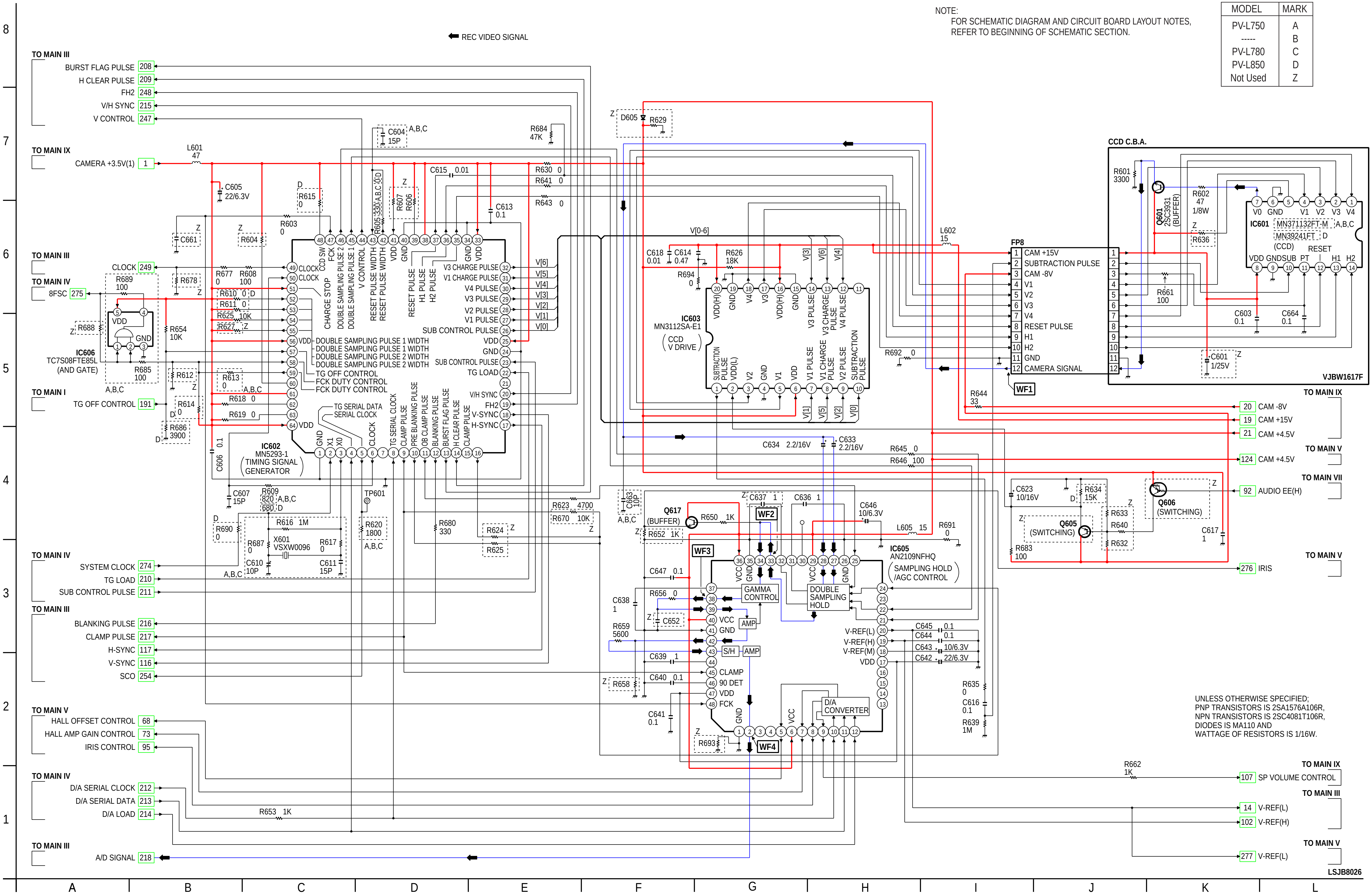
UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R AND
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

COMPARISON CHART
OF MODELS & MARKS

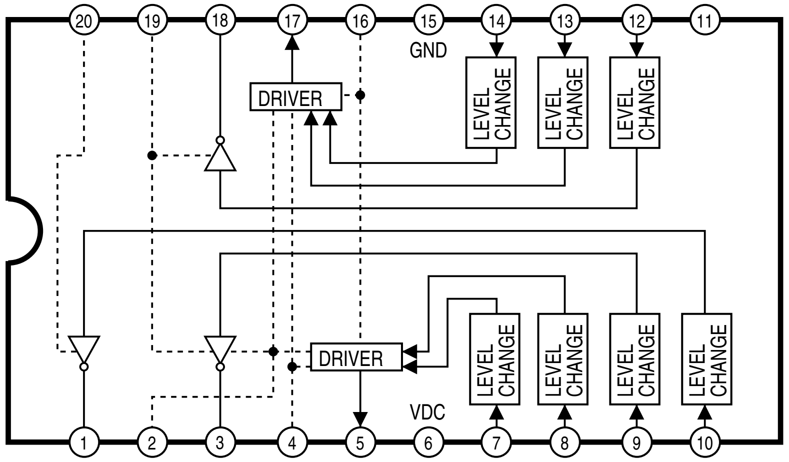
MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

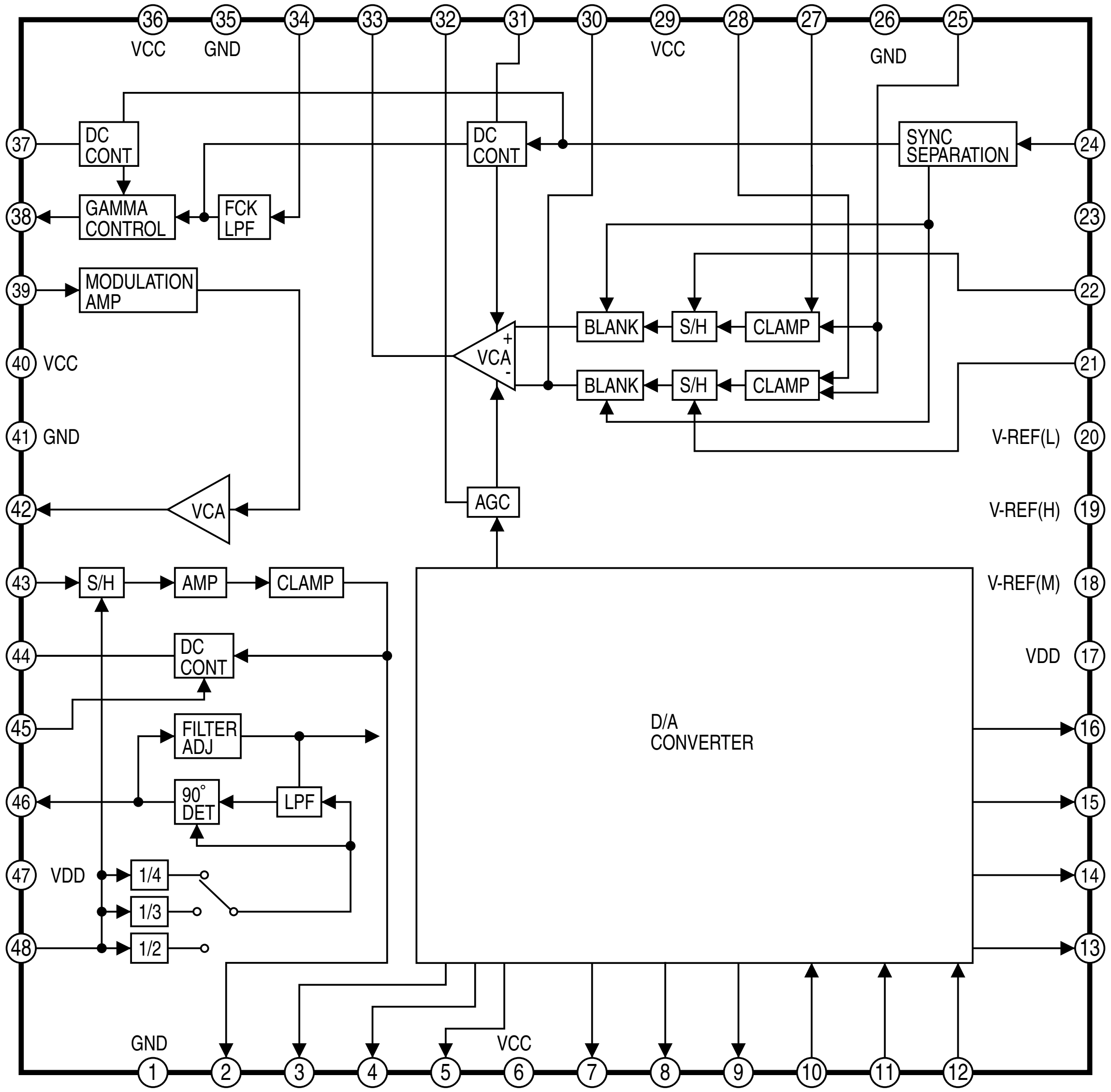

REC VIDEO SIGNAL
TO MAIN III
BURST FLAG PULSE 208
H CLEAR PULSE 209
FH2 248
V/H SYNC 215
V CONTROL 247
TO MAIN IX
CAMERA +3.5V(1) 1
L601 47
TO MAIN III
CLOCK 249
TO MAIN IV
8FSC 275
IC606 TC7S08FTE85L (AND GATE)
TO MAIN I
TG OFF CONTROL 191
IC602 MN5293-1 TIMING SIGNAL GENERATOR
CHARGE STOP
DOUBLE SAMPLING PULSE 2
DOUBLE SAMPLING PULSE 1
V CONTROL
RESET PULSE WIDTH
RESET PULSE WIDTH
VDD
GND
RESET PULSE
H1 PULSE
H2 PULSE
V3 CHARGE PULSE
V1 CHARGE PULSE
V4 PULSE
V3 PULSE
V2 PULSE
V1 PULSE
SUB CONTROL PULSE
DOUBLE SAMPLING PULSE 1 WIDTH
DOUBLE SAMPLING PULSE 2 WIDTH
TG OFF CONTROL
FCK DUTY CONTROL
TG LOAD
V/H SYNC
FH2
V-SYNC
H-SYNC
TG SERIAL DATA
SERIAL CLOCK
TG SERIAL CLOCK
CLAMP PULSE
PRE BLANKING PULSE
OB CLAMP PULSE
BLANKING PULSE
BURST FLAG PULSE
H CLEAR PULSE
CLAMP PULSE
X601 VSXW0096
TP601
IC603 MN3112SA-E1 (CCD V DRIVE)
V[0-6]
SUBTRACTION PULSE
V1 CHARGE PULSE
V3 CHARGE PULSE
V4 PULSE
V2 PULSE
Q617 (BUFFER)
Q605 (SWITCHING)
Q606 (SWITCHING)
IC605 AN2109NFHQ (SAMPLING HOLD /AGC CONTROL)
GAMMA CONTROL
DOUBLE SAMPLING HOLD
AMP
S/H
D/A CONVERTER
CLAMP
90 DET
FCK
V-REF(L)
V-REF(H)
V-REF(M)
WF1
WF2
WF3
WF4
FP8
CAM +15V
SUBTRACTION PULSE
CAM -8V
V1
V2
V3
V4
RESET PULSE
H1
H2
GND
CAMERA SIGNAL
CCD C.B.A.
Q601 2SC3931 (BUFFER)
IC601 MN371132FT-M A,B,C
MN39241FT D
(CCD)
VJBW1617F
TO MAIN IX
20 CAM -8V
19 CAM +15V
21 CAM +4.5V
TO MAIN V
124 CAM +4.5V
TO MAIN VII
92 AUDIO EE(H)
TO MAIN V
276 IRIS
TO MAIN IV
SYSTEM CLOCK 274
TG LOAD 210
SUB CONTROL PULSE 211
TO MAIN III
BLANKING PULSE 216
CLAMP PULSE 217
H-SYNC 117
V-SYNC 116
SCO 254
TO MAIN V
HALL OFFSET CONTROL 68
HALL AMP GAIN CONTROL 73
IRIS CONTROL 95
TO MAIN IV
D/A SERIAL CLOCK 212
D/A SERIAL DATA 213
D/A LOAD 214
TO MAIN III
A/D SIGNAL 218
TO MAIN IX
107 SP VOLUME CONTROL
TO MAIN III
14 V-REF(L)
102 V-REF(H)
TO MAIN V
277 V-REF(L)
A B C D E F G H I J K L
8 7 6 5 4 3 2 1

UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R,
DIODES IS MA110 AND
WATTAGE OF RESISTORS IS 1/16W.

IC603 CCD V DRIVE IC-DETAIL BLOCK DIAGRAM, MN3112SA-E1


20
19
18
17
16
15
GND
14
13
12
11
DRIVER
LEVEL CHANGE
LEVEL CHANGE
LEVEL CHANGE
DRIVER
LEVEL CHANGE
LEVEL CHANGE
LEVEL CHANGE
LEVEL CHANGE
VDC
1
2
3
4
5
6
7
8
9
10

IC605 SAMPLING HOLD/AGC CONTROL IC-DETAIL BLOCK DIAGRAM, AN2109FHQ

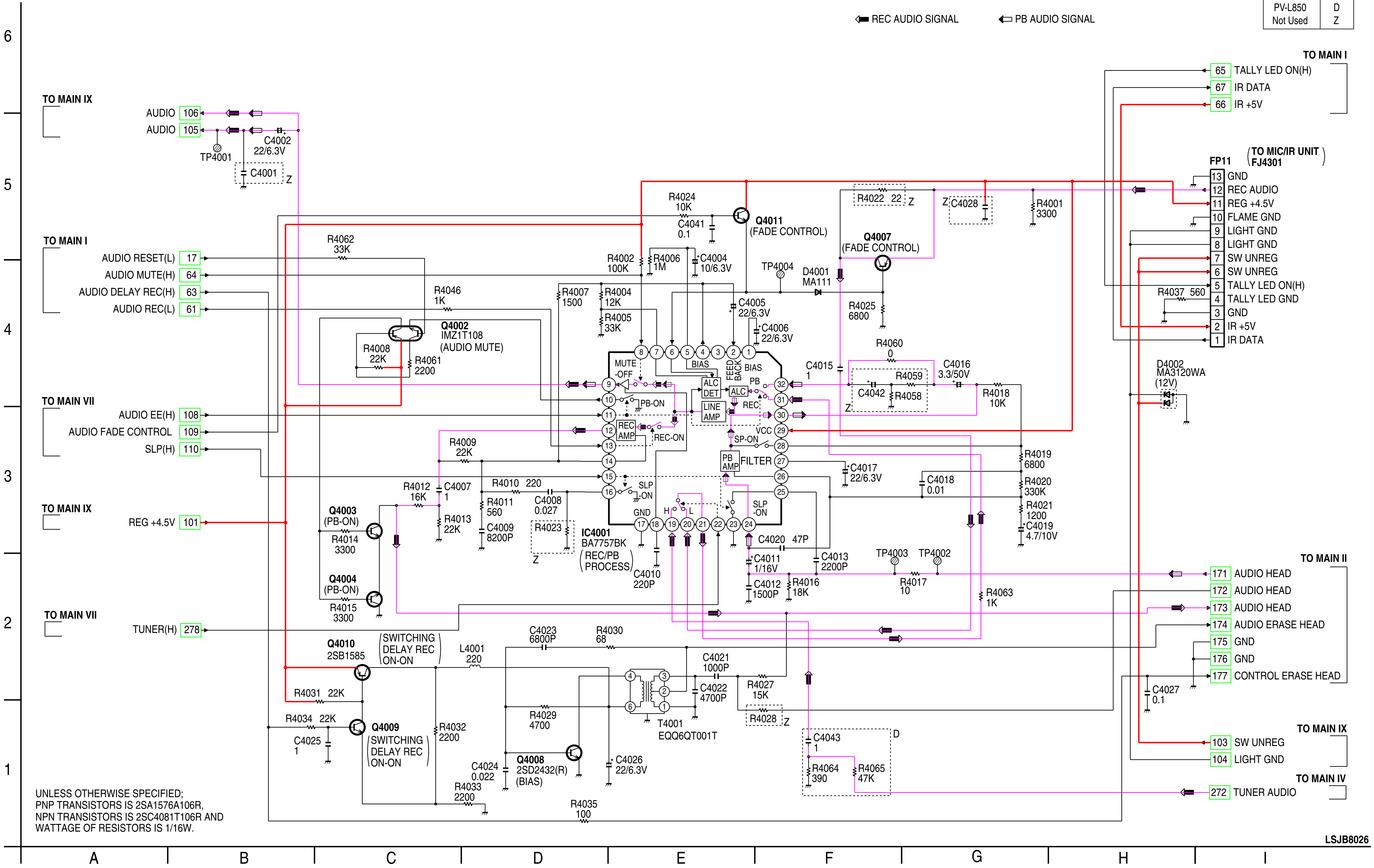

36
35
34
33
32
31
30
29
28
27
26
25
VCC
GND
VCC
GND
37
DC CONT
DC CONT
SYNC SEPARATION
24
38
GAMMA CONTROL
FCK LPF
23
39
MODULATION AMP
22
BLANK
S/H
CLAMP
+
VCA
-
40 VCC
BLANK
S/H
CLAMP
21
41 GND
V-REF(L) 20
42
VCA
AGC
V-REF(H) 19
43
S/H
AMP
CLAMP
V-REF(M) 18
44
DC CONT
VDD 17
45
FILTER ADJ
D/A CONVERTER
16
46
90° DET
LPF
15
47 VDD
1/4
14
1/3
48
1/2
13
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

◀ REC AUDIO SIGNAL ◁ PB AUDIO SIGNAL



6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
TO MAIN IX
AUDIO 106
AUDIO 105
C4002 22/6.3V
TP4001
C4001 Z
TO MAIN I
AUDIO RESET(L) 17
AUDIO MUTE(H) 64
AUDIO DELAY REC(H) 63
AUDIO REC(L) 61
R4062 33K
R4046 1K
Q4002 IMZ1T108 (AUDIO MUTE)
R4008 22K
R4061 2200
TO MAIN VII
AUDIO EE(H) 108
AUDIO FADE CONTROL 109
SLP(H) 110
R4009 22K
R4012 16K
C4007 1
R4013 22K
R4010 220
R4011 560
C4008 0.027
C4009 8200P
R4023 Z
Q4003 (PB-ON)
R4014 3300
Q4004 (PB-ON)
R4015 3300
TO MAIN IX
REG +4.5V 101
TO MAIN VII
TUNER(H) 278
Q4010 2SB1585
(SWITCHING DELAY REC ON-ON
L4001 220
R4031 22K
R4034 22K
Q4009 (SWITCHING DELAY REC ON-ON
C4025 1
R4032 2200
C4023 6800P
R4030 68
R4029 4700
Q4008 2SD2432(R) (BIAS)
C4024 0.022
R4033 2200
C4026 22/6.3V
R4035 100
T4001 EQQ6QT001T
C4021 1000P
C4022 4700P
R4027 15K
R4028 Z
C4043 1
R4064 390
R4065 47K
D
R4024 10K
C4041 0.1
Q4011 (FADE CONTROL)
R4002 100K
R4006 1M
C4004 10/6.3V
R4007 1500
R4004 12K
R4005 33K
C4005 22/6.3V
C4006 22/6.3V
TP4004
D4001 MA111
R4022 22 Z
Z C4028
R4001 3300
Q4007 (FADE CONTROL)
R4025 6800
R4060 0
C4015 1
R4059
C4016 3.3/50V
C4042
R4058
Z
R4018 10K
MUTE -OFF
BIAS
FEED BACK
BIAS
ALC DET
ALC
PB
LINE AMP
REC
PB-ON
REC AMP
REC-ON
SP-ON
VCC
PB AMP
FILTER
SLP -ON
SLP -ON
GND
H
L
IC4001 BA7757BK (REC/PB PROCESS)
C4010 220P
C4020 47P
C4011 1/16V
C4012 1500P
R4016 18K
C4013 2200P
C4017 22/6.3V
C4018 0.01
R4019 6800
R4020 330K
R4021 1200
C4019 4.7/10V
TP4003
TP4002
R4017 10
R4063 1K
C4027 0.1
TO MAIN I
65 TALLY LED ON(H)
67 IR DATA
66 IR +5V
FP11
(TO MIC/IR UNIT FJ4301)
13 GND
12 REC AUDIO
11 REG +4.5V
10 FLAME GND
9 LIGHT GND
8 LIGHT GND
7 SW UNREG
6 SW UNREG
5 TALLY LED ON(H)
4 TALLY LED GND
3 GND
2 IR +5V
1 IR DATA
R4037 560
D4002 MA3120WA (12V)
TO MAIN II
171 AUDIO HEAD
172 AUDIO HEAD
173 AUDIO HEAD
174 AUDIO ERASE HEAD
175 GND
176 GND
177 CONTROL ERASE HEAD
TO MAIN IX
103 SW UNREG
104 LIGHT GND
TO MAIN IV
272 TUNER AUDIO

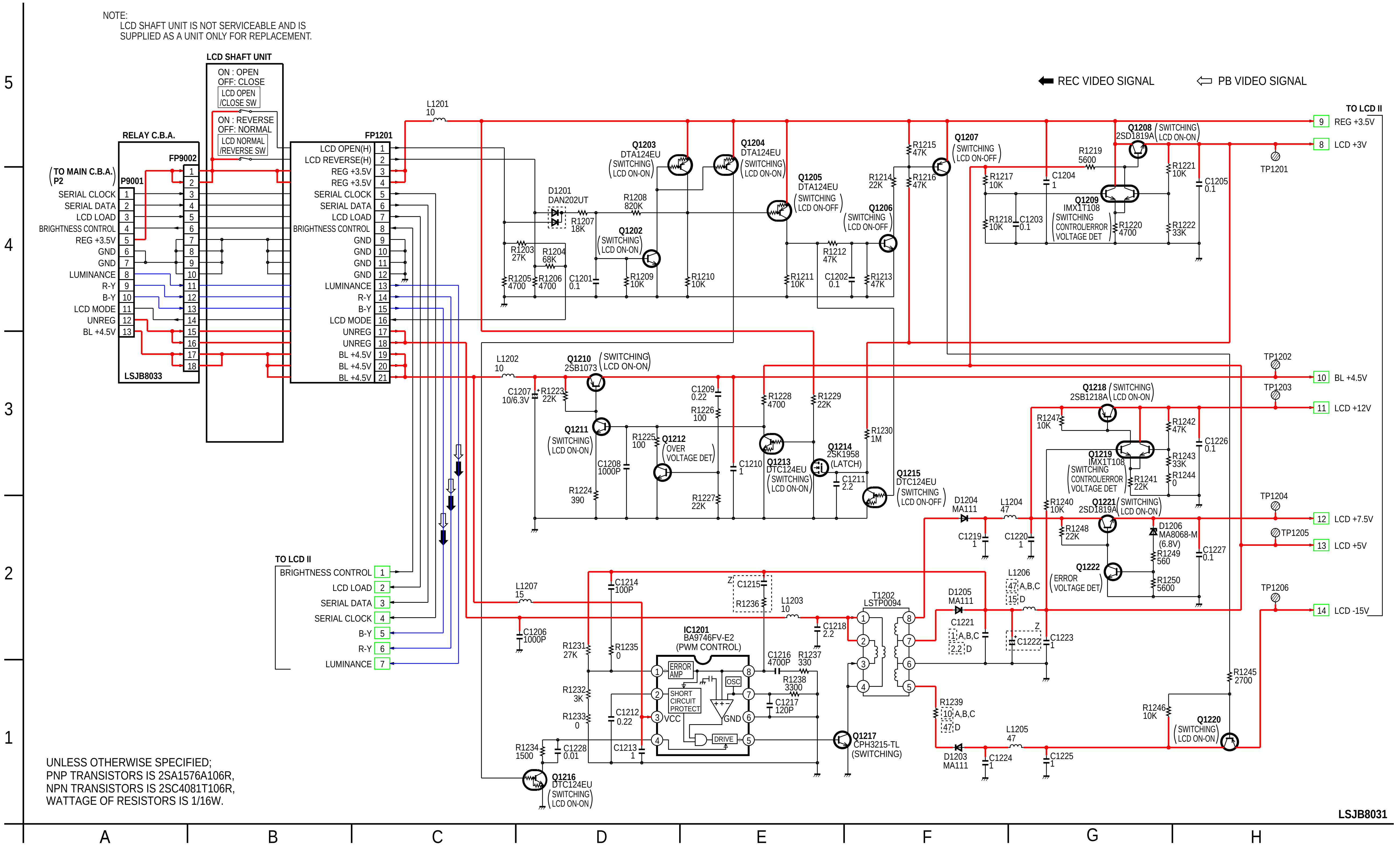
UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R AND
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



NOTE:
LCD SHAFT UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R,
WATTAGE OF RESISTORS IS 1/16W.

REC VIDEO SIGNAL
PB VIDEO SIGNAL
LCD SHAFT UNIT
ON : OPEN
OFF: CLOSE
LCD OPEN /CLOSE SW
ON : REVERSE
OFF: NORMAL
LCD NORMAL /REVERSE SW
RELAY C.B.A.
FP9002
TO MAIN C.B.A. P2
P9001
SERIAL CLOCK
SERIAL DATA
LCD LOAD
BRIGHTNESS CONTROL
REG +3.5V
GND
LUMINANCE
R-Y
B-Y
LCD MODE
UNREG
BL +4.5V
LSJB8033
FP1201
LCD OPEN(H)
LCD REVERSE(H)
L1201 10
D1201 DAN202UT
R1208 820K
R1207 18K
R1203 27K
R1204 68K
R1205 4700
R1206 4700
C1201 0.1
Q1202 (SWITCHING LCD ON-ON)
R1209 10K
Q1203 DTA124EU (SWITCHING LCD ON-ON)
R1210 10K
Q1204 DTA124EU (SWITCHING LCD ON-ON)
Q1205 DTA124EU (SWITCHING LCD ON-OFF)
R1211 10K
C1202 0.1
R1212 47K
R1213 47K
Q1206 (SWITCHING LCD ON-OFF)
R1214 22K
R1215 47K
R1216 47K
Q1207 (SWITCHING LCD ON-OFF)
R1217 10K
R1218 10K
C1203 0.1
C1204 1
R1219 5600
Q1208 2SD1819A (SWITCHING LCD ON-ON)
Q1209 IMX1T108 (SWITCHING CONTROL/ERROR VOLTAGE DET)
R1220 4700
R1221 10K
R1222 33K
C1205 0.1
TP1201
TO LCD II
REG +3.5V
LCD +3V
L1202 10
C1207 10/6.3V
R1223 22K
Q1210 2SB1073 (SWITCHING LCD ON-ON)
Q1211 (SWITCHING LCD ON-ON)
C1208 1000P
R1224 390
R1225 100
Q1212 (OVER VOLTAGE DET)
C1209 0.22
R1226 100
R1227 22K
C1210 1
R1228 4700
Q1213 DTC124EU (SWITCHING LCD ON-ON)
R1229 22K
Q1214 2SK1958 (LATCH)
C1211 2.2
R1230 1M
Q1215 DTC124EU (SWITCHING LCD ON-OFF)
TP1202
BL +4.5V
TP1203
LCD +12V
Q1218 2SB1218A (SWITCHING LCD ON-ON)
R1247 10K
R1242 47K
C1226 0.1
Q1219 IMX1T108 (SWITCHING CONTROL/ERROR VOLTAGE DET)
R1243 33K
R1241 22K
R1244 0
R1240 10K
Q1221 2SD1819A (SWITCHING LCD ON-ON)
TP1204
LCD +7.5V
TP1205
LCD +5V
D1204 MA111
L1204 47
C1219 1
C1220 1
R1248 22K
D1206 MA8068-M (6.8V)
R1249 560
C1227 0.1
Q1222 (ERROR VOLTAGE DET)
R1250 5600
L1206 47 A,B,C 15 D
TP1206
LCD -15V
TO LCD II
BRIGHTNESS CONTROL
LCD LOAD
SERIAL DATA
SERIAL CLOCK
B-Y
R-Y
LUMINANCE
L1207 15
C1206 1000P
C1214 100P
C1215
R1236
L1203 10
C1218 2.2
T1202 LSTP0094
D1205 MA111
C1221 1 A,B,C 2.2 D
C1222
C1223 1
IC1201 BA9746FV-E2 (PWM CONTROL)
ERROR AMP
SHORT CIRCUIT PROTECT
OSC
VCC
GND
DRIVE
R1231 27K
R1235 0
R1232 3K
R1233 0
C1212 0.22
R1234 1500
C1228 0.01
C1213 1
C1216 4700P
R1237 330
R1238 3300
C1217 120P
Q1217 CPH3215-TL (SWITCHING)
R1239 10 A,B,C 47 D
D1203 MA111
L1205 47
C1224 1
C1225 1
R1245 2700
R1246 10K
Q1220 (SWITCHING LCD ON-ON)
Q1216 DTC124EU (SWITCHING LCD ON-ON)
LSJB8031
A
B
C
D
E
F
G
H
1
2
3
4
5

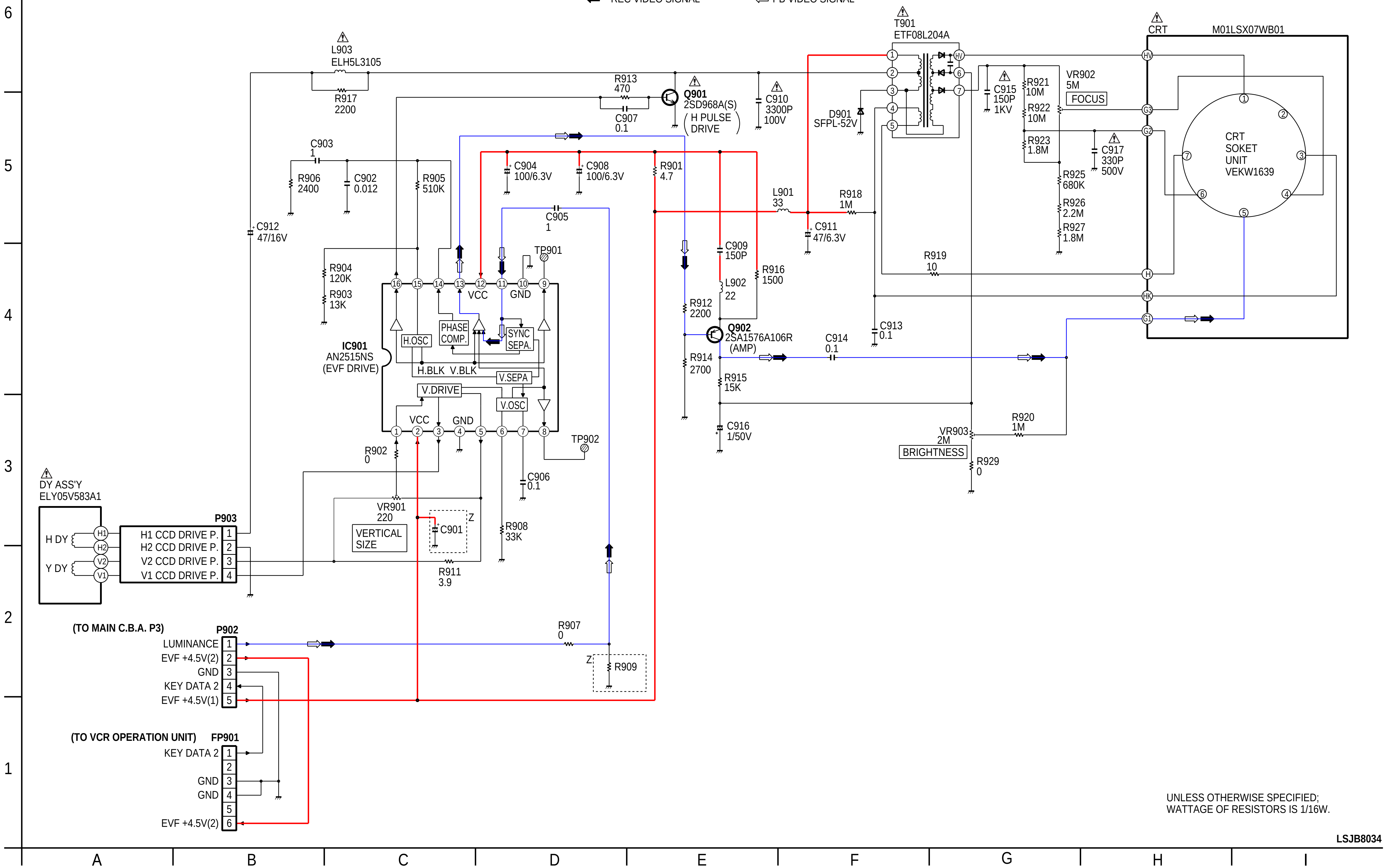
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

⬅ REC VIDEO SIGNAL ⇦ PB VIDEO SIGNAL



6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
⚠ L903 ELH5L3105
R917 2200
R913 470
C907 0.1
⚠ Q901 2SD968A(S) (H PULSE DRIVE)
⚠ C910 3300P 100V
⚠ T901 ETF08L204A
D901 SFPL-52V
HV
⚠ C915 150P 1KV
R921 10M
R922 10M
R923 1.8M
VR902 5M
FOCUS
⚠ C917 330P 500V
R925 680K
R926 2.2M
R927 1.8M
⚠ CRT
M01LSX07WB01
G3
G2
H
HK
G1
CRT SOKET UNIT VEKW1639
C903 1
R906 2400
C902 0.012
R905 510K
C904 100/6.3V
C908 100/6.3V
R901 4.7
L901 33
R918 1M
C911 47/16V
C911 47/6.3V
C912 47/16V
C905 1
TP901
R904 120K
R903 13K
C909 150P
R916 1500
L902 22
R919 10
R912 2200
Q902 2SA1576A106R (AMP)
C913 0.1
C914 0.1
R914 2700
R915 15K
C916 1/50V
VR903 2M
BRIGHTNESS
R920 1M
R929 0
IC901 AN2515NS (EVF DRIVE)
VCC
GND
H.OSC
PHASE COMP.
SYNC SEPA.
H.BLK V.BLK
V.SEPA
V.DRIVE
V.OSC
TP902
R902 0
C906 0.1
VR901 220
VERTICAL SIZE
Z
C901
R908 33K
R911 3.9
⚠ DY ASS'Y ELY05V583A1
H DY
Y DY
H1
H2
V2
V1
P903
H1 CCD DRIVE P.
H2 CCD DRIVE P.
V2 CCD DRIVE P.
V1 CCD DRIVE P.
(TO MAIN C.B.A. P3)
P902
LUMINANCE
EVF +4.5V(2)
GND
KEY DATA 2
EVF +4.5V(1)
R907 0
R909
(TO VCR OPERATION UNIT)
FP901
KEY DATA 2
GND
GND
EVF +4.5V(2)

UNLESS OTHERWISE SPECIFIED;
WATTAGE OF RESISTORS IS 1/16W.

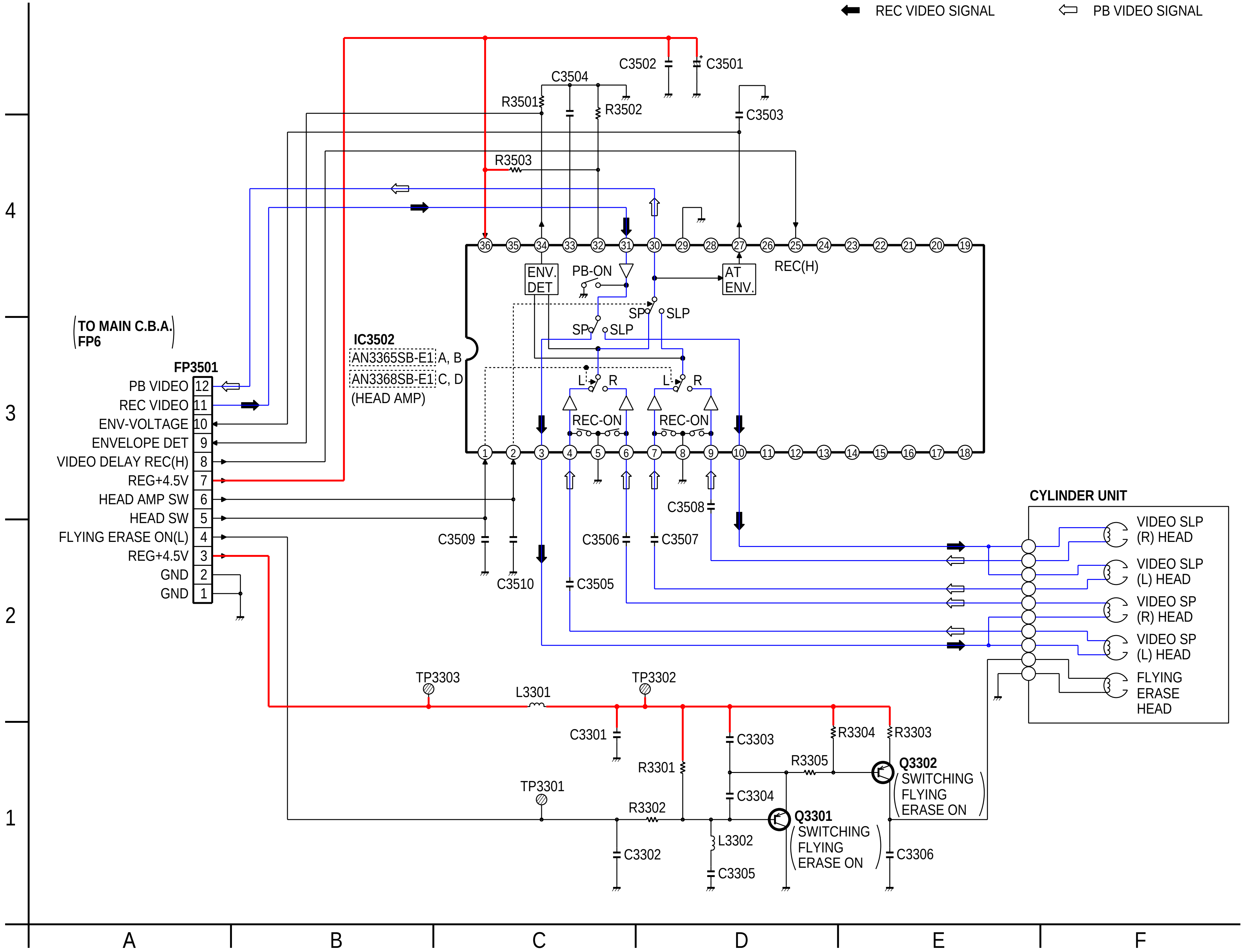
LSJB8034

NOTE:
HEAD AMP C.B.A. WHICH IS LOCATED ON THE LOWER CYLINDER IS SUPPLIED AS A CYLINDER UNIT ONLY.
HOWEVER, IC3501 (AN3365SB-E1 OR AN3368SB-E1) IS AVAILABLE SEPARATELY AS A REPLACEMENT PART.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z



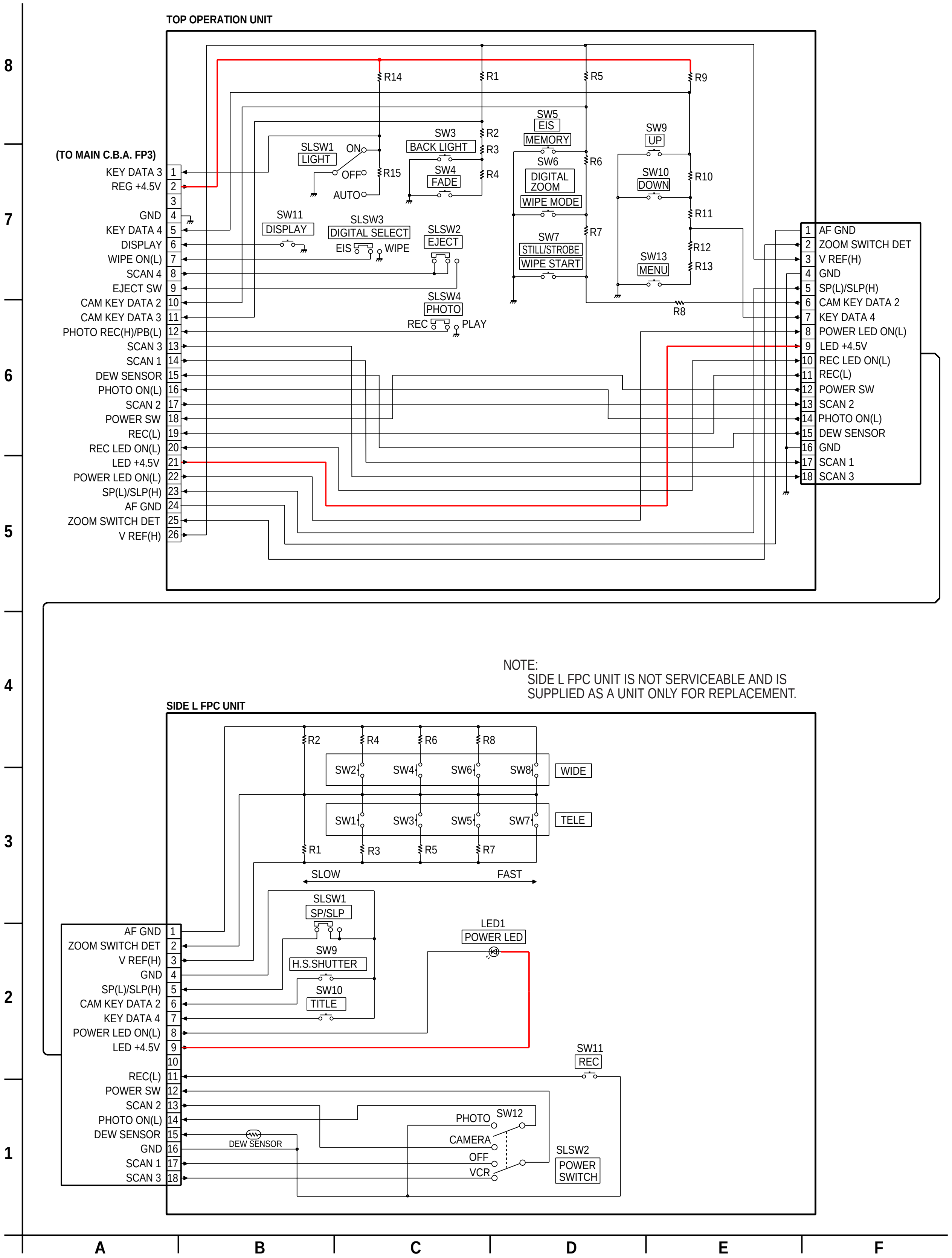
REC VIDEO SIGNAL
PB VIDEO SIGNAL
TO MAIN C.B.A. FP6
FP3501
PB VIDEO 12
REC VIDEO 11
ENV-VOLTAGE 10
ENVELOPE DET 9
VIDEO DELAY REC(H) 8
REG+4.5V 7
HEAD AMP SW 6
HEAD SW 5
FLYING ERASE ON(L) 4
REG+4.5V 3
GND 2
GND 1
IC3502
AN3365SB-E1 A, B
AN3368SB-E1 C, D
(HEAD AMP)
C3501
C3502
C3503
C3504
R3501
R3502
R3503
ENV. DET
PB-ON
AT ENV.
REC(H)
SP
SLP
L
R
REC-ON
C3505
C3506
C3507
C3508
C3509
C3510
CYLINDER UNIT
VIDEO SLP (R) HEAD
VIDEO SLP (L) HEAD
VIDEO SP (R) HEAD
VIDEO SP (L) HEAD
FLYING ERASE HEAD
TP3301
TP3302
TP3303
L3301
L3302
C3301
C3302
C3303
C3304
C3305
C3306
R3301
R3302
R3303
R3304
R3305
Q3301 SWITCHING FLYING ERASE ON
Q3302 SWITCHING FLYING ERASE ON
1
2
3
4
A
B
C
D
E
F

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

TOP OPERATION UNIT/SIDE L FPC UNIT

"FOR REFERENCE ONLY"

NOTE:
TOP OPERATION UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


TOP OPERATION UNIT
(TO MAIN C.B.A. FP3)
1 KEY DATA 3
2 REG +4.5V
3
4 GND
5 KEY DATA 4
6 DISPLAY
7 WIPE ON(L)
8 SCAN 4
9 EJECT SW
10 CAM KEY DATA 2
11 CAM KEY DATA 3
12 PHOTO REC(H)/PB(L)
13 SCAN 3
14 SCAN 1
15 DEW SENSOR
16 PHOTO ON(L)
17 SCAN 2
18 POWER SW
19 REC(L)
20 REC LED ON(L)
21 LED +4.5V
22 POWER LED ON(L)
23 SP(L)/SLP(H)
24 AF GND
25 ZOOM SWITCH DET
26 V REF(H)
R14
R1
R5
R9
R2
R3
R4
R6
R7
R8
R10
R11
R12
R13
R15
SLSW1
LIGHT
ON
OFF
AUTO
SW3
BACK LIGHT
SW4
FADE
SW5
EIS
MEMORY
SW6
DIGITAL ZOOM
WIPE MODE
SW7
STILL/STROBE
WIPE START
SW9
UP
SW10
DOWN
SW13
MENU
SW11
DISPLAY
SLSW3
DIGITAL SELECT
EIS
WIPE
SLSW2
EJECT
SLSW4
PHOTO
REC
PLAY
1 AF GND
2 ZOOM SWITCH DET
3 V REF(H)
4 GND
5 SP(L)/SLP(H)
6 CAM KEY DATA 2
7 KEY DATA 4
8 POWER LED ON(L)
9 LED +4.5V
10 REC LED ON(L)
11 REC(L)
12 POWER SW
13 SCAN 2
14 PHOTO ON(L)
15 DEW SENSOR
16 GND
17 SCAN 1
18 SCAN 3
SIDE L FPC UNIT
R2
R4
R6
R8
SW2
SW4
SW6
SW8
WIDE
SW1
SW3
SW5
SW7
TELE
R1
R3
R5
R7
SLOW
FAST
SLSW1
SP/SLP
SW9
H.S.SHUTTER
SW10
TITLE
LED1
POWER LED
SW11
REC
PHOTO
SW12
CAMERA
OFF
VCR
SLSW2
POWER
SWITCH
DEW SENSOR
1 AF GND
2 ZOOM SWITCH DET
3 V REF(H)
4 GND
5 SP(L)/SLP(H)
6 CAM KEY DATA 2
7 KEY DATA 4
8 POWER LED ON(L)
9 LED +4.5V
10
11 REC(L)
12 POWER SW
13 SCAN 2
14 PHOTO ON(L)
15 DEW SENSOR
16 GND
17 SCAN 1
18 SCAN 3
8
7
6
5
4
3
2
1
A
B
C
D
E
F

NOTE:
SIDE L FPC UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

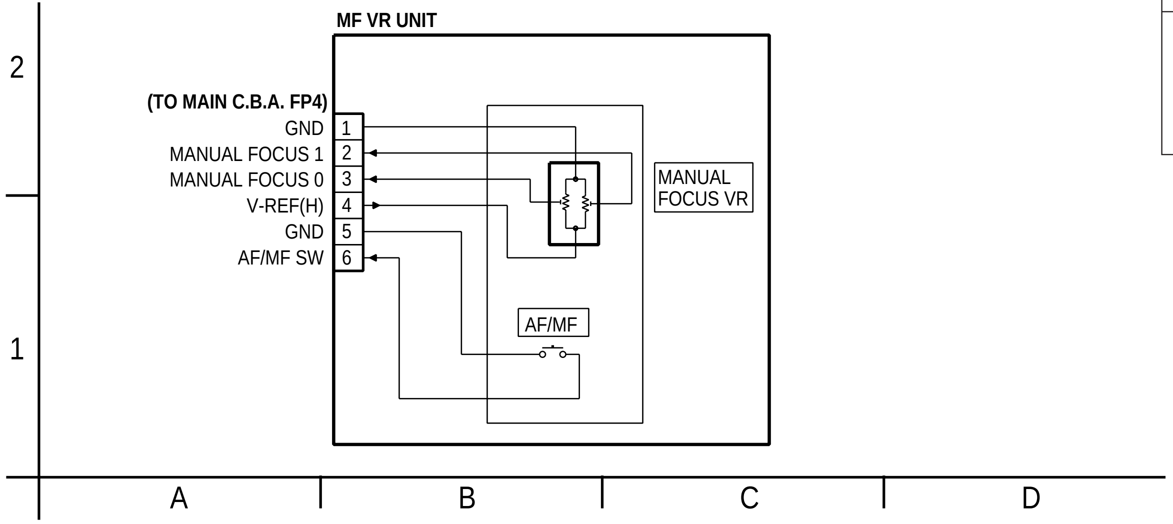
MF VR UNIT

"FOR REFERENCE ONLY"

NOTE:
MF VR UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

COMPARISON CHART
OF MODELS & MARKS

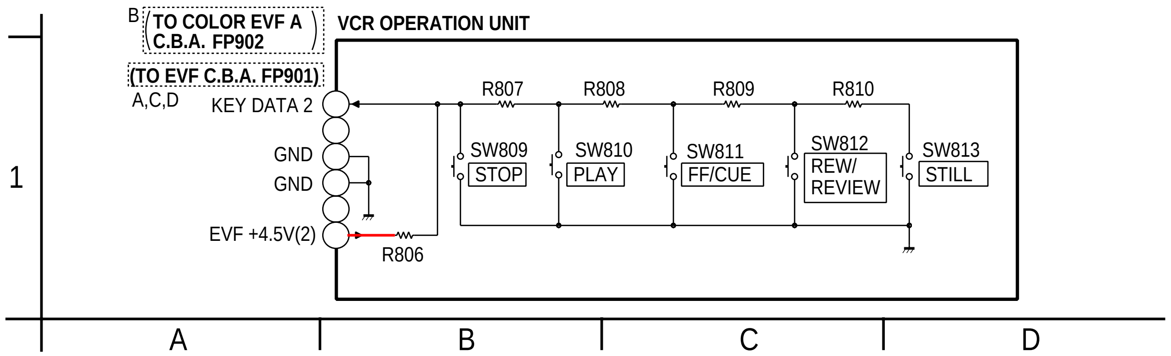
MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z


MF VR UNIT
(TO MAIN C.B.A. FP4)
1 GND
2 MANUAL FOCUS 1
3 MANUAL FOCUS 0
4 V-REF(H)
5 GND
6 AF/MF SW
MANUAL
FOCUS VR
AF/MF
2
1
A
B
C
D

VCR OPERATION UNIT

"FOR REFERENCE ONLY"

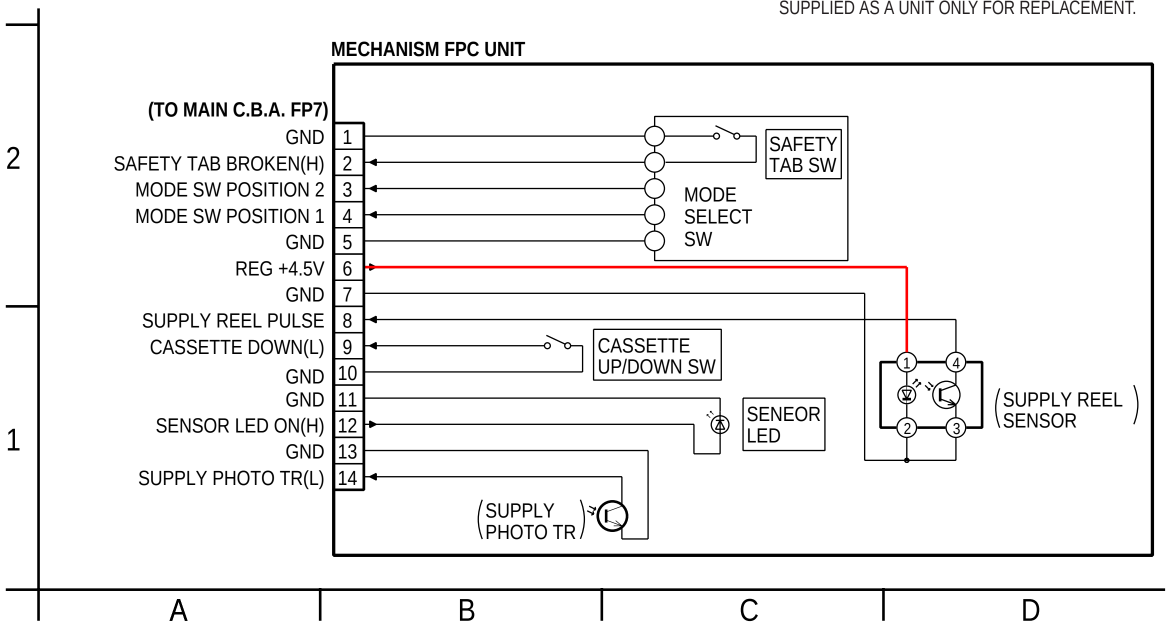
NOTE:
VCR OPERATION UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


B (TO COLOR EVF A C.B.A. FP902)
(TO EVF C.B.A. FP901)
A,C,D
VCR OPERATION UNIT
KEY DATA 2
GND
GND
EVF +4.5V(2)
R806
R807
R808
R809
R810
SW809
STOP
SW810
PLAY
SW811
FF/CUE
SW812
REW/
REVIEW
SW813
STILL
1
A
B
C
D

MECHANISM FPC UNIT

"FOR REFERENCE ONLY"

NOTE:
MECHANISM FPC UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


MECHANISM FPC UNIT
(TO MAIN C.B.A. FP7)
1 GND
2 SAFETY TAB BROKEN(H)
3 MODE SW POSITION 2
4 MODE SW POSITION 1
5 GND
6 REG +4.5V
7 GND
8 SUPPLY REEL PULSE
9 CASSETTE DOWN(L)
10 GND
11 GND
12 SENSOR LED ON(H)
13 GND
14 SUPPLY PHOTO TR(L)
SAFETY
TAB SW
MODE
SELECT
SW
CASSETTE
UP/DOWN SW
SENEOR
LED
SUPPLY REEL
SENSOR
SUPPLY
PHOTO TR
1
2
3
4
2
1
A
B
C
D

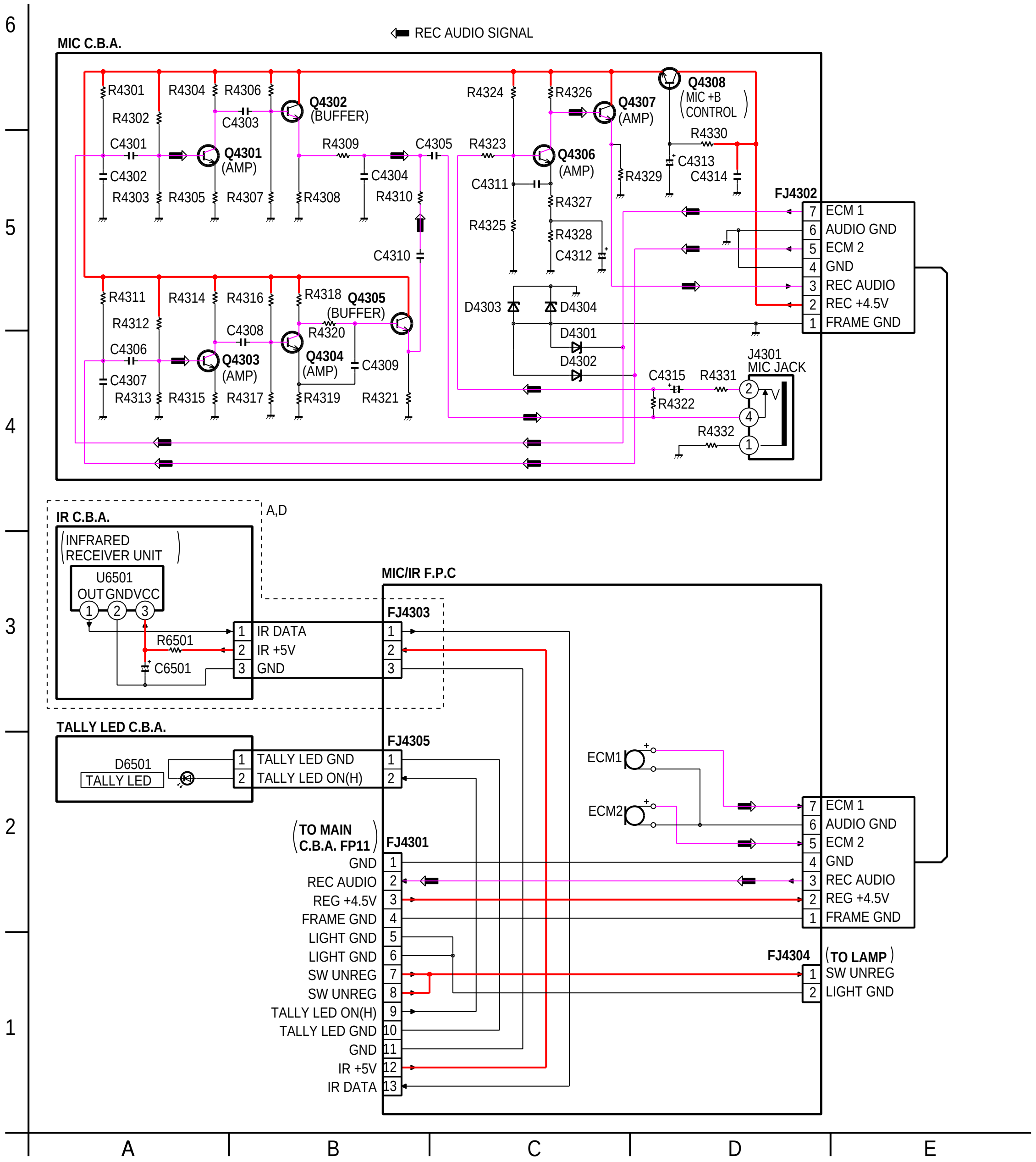
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

MIC/IR UNIT

"FOR REFERENCE ONLY"

NOTE:
MIC/IR UNIT IS NOT SERVICEABLE AND IS SUPPLIED
AS A UNIT ONLY FOR REPLACEMENT.

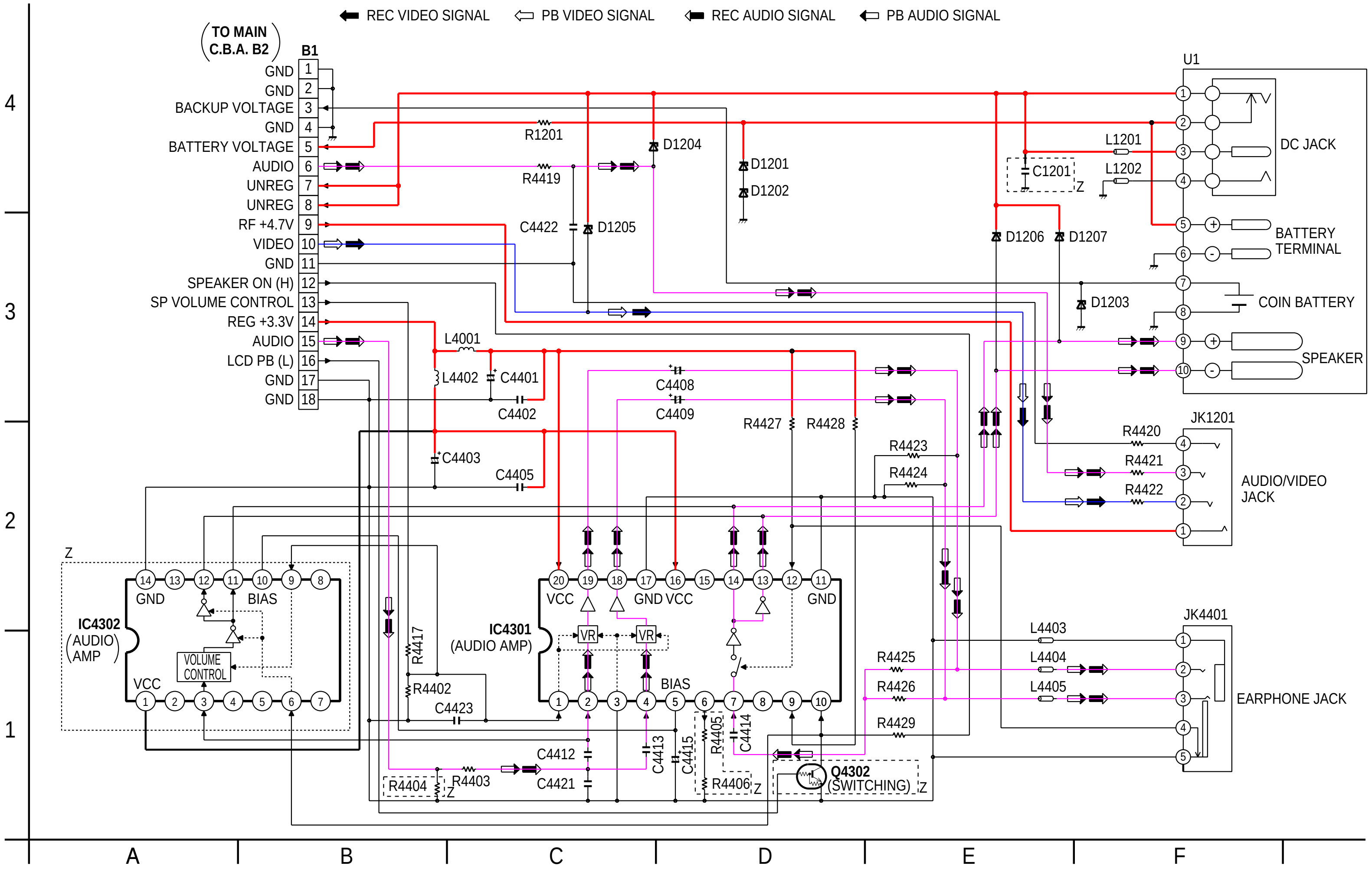


REC AUDIO SIGNAL
MIC C.B.A.
Q4301 (AMP)
Q4302 (BUFFER)
Q4303 (AMP)
Q4304 (AMP)
Q4305 (BUFFER)
Q4306 (AMP)
Q4307 (AMP)
Q4308 (MIC +B CONTROL)
FJ4302
7 ECM 1
6 AUDIO GND
5 ECM 2
4 GND
3 REC AUDIO
2 REC +4.5V
1 FRAME GND
J4301 MIC JACK
D4301
D4302
D4303
D4304
IR C.B.A.
A,D
INFRARED RECEIVER UNIT
U6501
OUT GND VCC
R6501
C6501
1 IR DATA
2 IR +5V
3 GND
MIC/IR F.P.C
FJ4303
TALLY LED C.B.A.
D6501 TALLY LED
1 TALLY LED GND
2 TALLY LED ON(H)
FJ4305
ECM1
ECM2
TO MAIN C.B.A. FP11
FJ4301
GND
REC AUDIO
REG +4.5V
FRAME GND
LIGHT GND
LIGHT GND
SW UNREG
SW UNREG
TALLY LED ON(H)
TALLY LED GND
GND
IR +5V
IR DATA
FJ4304
TO LAMP
1 SW UNREG
2 LIGHT GND
6
5
4
3
2
1
A
B
C
D
E

BATTERY CATCHER UNIT

"FOR REFERENCE ONLY"

NOTE:
BATTERY CATCHER UNIT IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

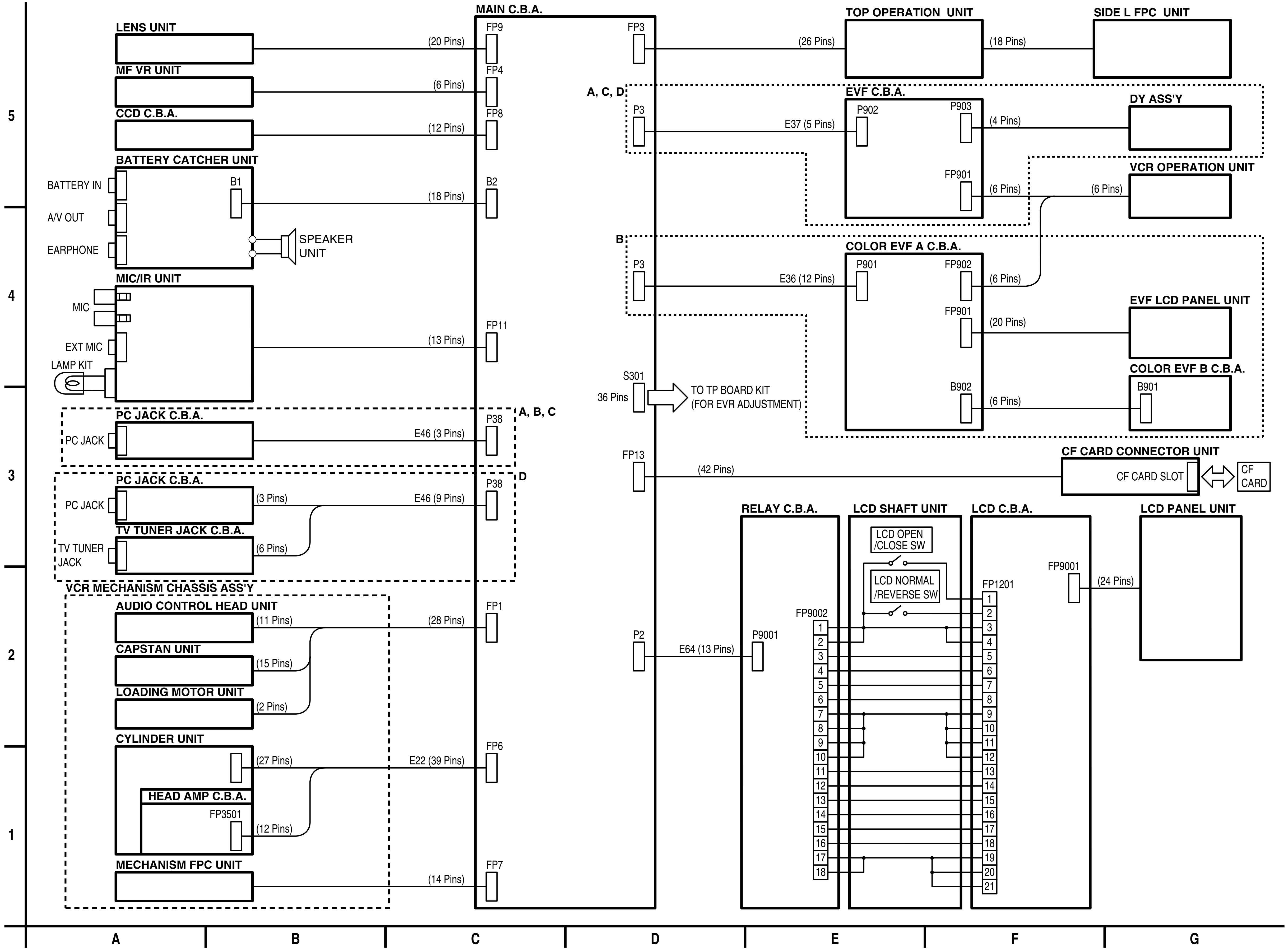


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
TO MAIN C.B.A. B2
B1
1 GND
2 GND
3 BACKUP VOLTAGE
4 GND
5 BATTERY VOLTAGE
6 AUDIO
7 UNREG
8 UNREG
9 RF +4.7V
10 VIDEO
11 GND
12 SPEAKER ON (H)
13 SP VOLUME CONTROL
14 REG +3.3V
15 AUDIO
16 LCD PB (L)
17 GND
18 GND
U1
DC JACK
BATTERY TERMINAL
COIN BATTERY
SPEAKER
JK1201
AUDIO/VIDEO JACK
JK4401
EARPHONE JACK
IC4302 (AUDIO AMP)
VOLUME CONTROL
IC4301 (AUDIO AMP)
Q4302 (SWITCHING)
D1201
D1202
D1203
D1204
D1205
D1206
D1207
L1201
L1202
C1201
L4001
L4402
L4403
L4404
L4405
4
3
2
1
A
B
C
D
E
F

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

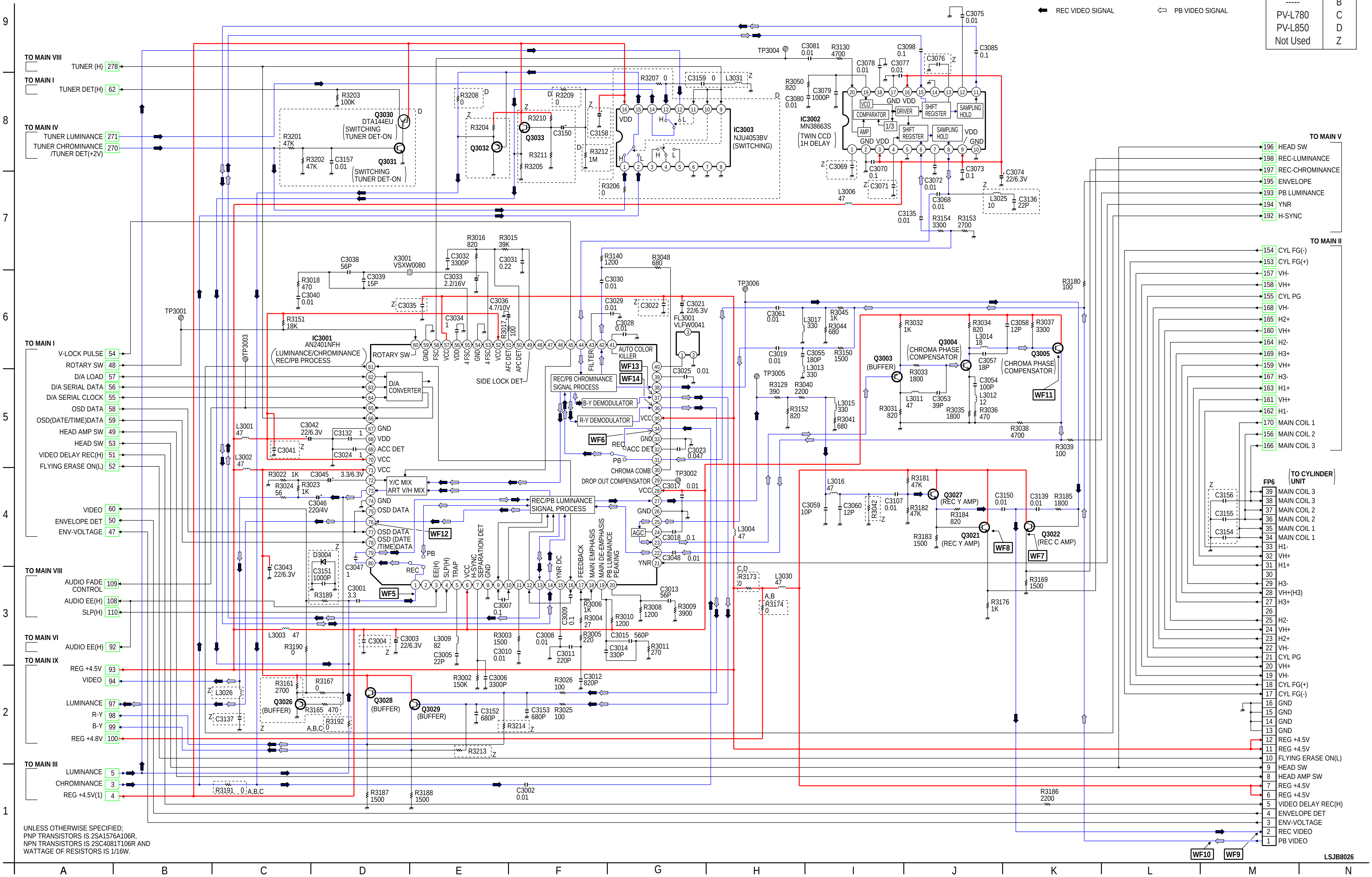
MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z


MAIN C.B.A.
LENS UNIT
(20 Pins)
FP9
MF VR UNIT
(6 Pins)
FP4
CCD C.B.A.
(12 Pins)
FP8
BATTERY CATCHER UNIT
BATTERY IN
A/V OUT
EARPHONE
B1
(18 Pins)
B2
SPEAKER UNIT
MIC/IR UNIT
MIC
EXT MIC
LAMP KIT
(13 Pins)
FP11
PC JACK C.B.A.
PC JACK
E46 (3 Pins)
P38
A, B, C
PC JACK C.B.A.
PC JACK
(3 Pins)
E46 (9 Pins)
P38
D
TV TUNER JACK C.B.A.
TV TUNER JACK
(6 Pins)
VCR MECHANISM CHASSIS ASS'Y
AUDIO CONTROL HEAD UNIT
(11 Pins)
(28 Pins)
FP1
CAPSTAN UNIT
(15 Pins)
LOADING MOTOR UNIT
(2 Pins)
CYLINDER UNIT
(27 Pins)
E22 (39 Pins)
FP6
HEAD AMP C.B.A.
FP3501
(12 Pins)
MECHANISM FPC UNIT
(14 Pins)
FP7
FP3
(26 Pins)
TOP OPERATION UNIT
(18 Pins)
SIDE L FPC UNIT
A, C, D
P3
E37 (5 Pins)
EVF C.B.A.
P902
P903
(4 Pins)
DY ASS'Y
FP901
(6 Pins)
(6 Pins)
VCR OPERATION UNIT
B
P3
E36 (12 Pins)
COLOR EVF A C.B.A.
P901
FP902
(6 Pins)
FP901
(20 Pins)
EVF LCD PANEL UNIT
B902
(6 Pins)
COLOR EVF B C.B.A.
B901
S301
36 Pins
TO TP BOARD KIT
(FOR EVR ADJUSTMENT)
FP13
(42 Pins)
CF CARD CONNECTOR UNIT
CF CARD SLOT
CF CARD
P2
E64 (13 Pins)
RELAY C.B.A.
P9001
FP9002
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
LCD SHAFT UNIT
LCD OPEN /CLOSE SW
LCD NORMAL /REVERSE SW
LCD C.B.A.
FP1201
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
FP9001
(24 Pins)
LCD PANEL UNIT
5
4
3
2
1
A
B
C
D
E
F
G

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

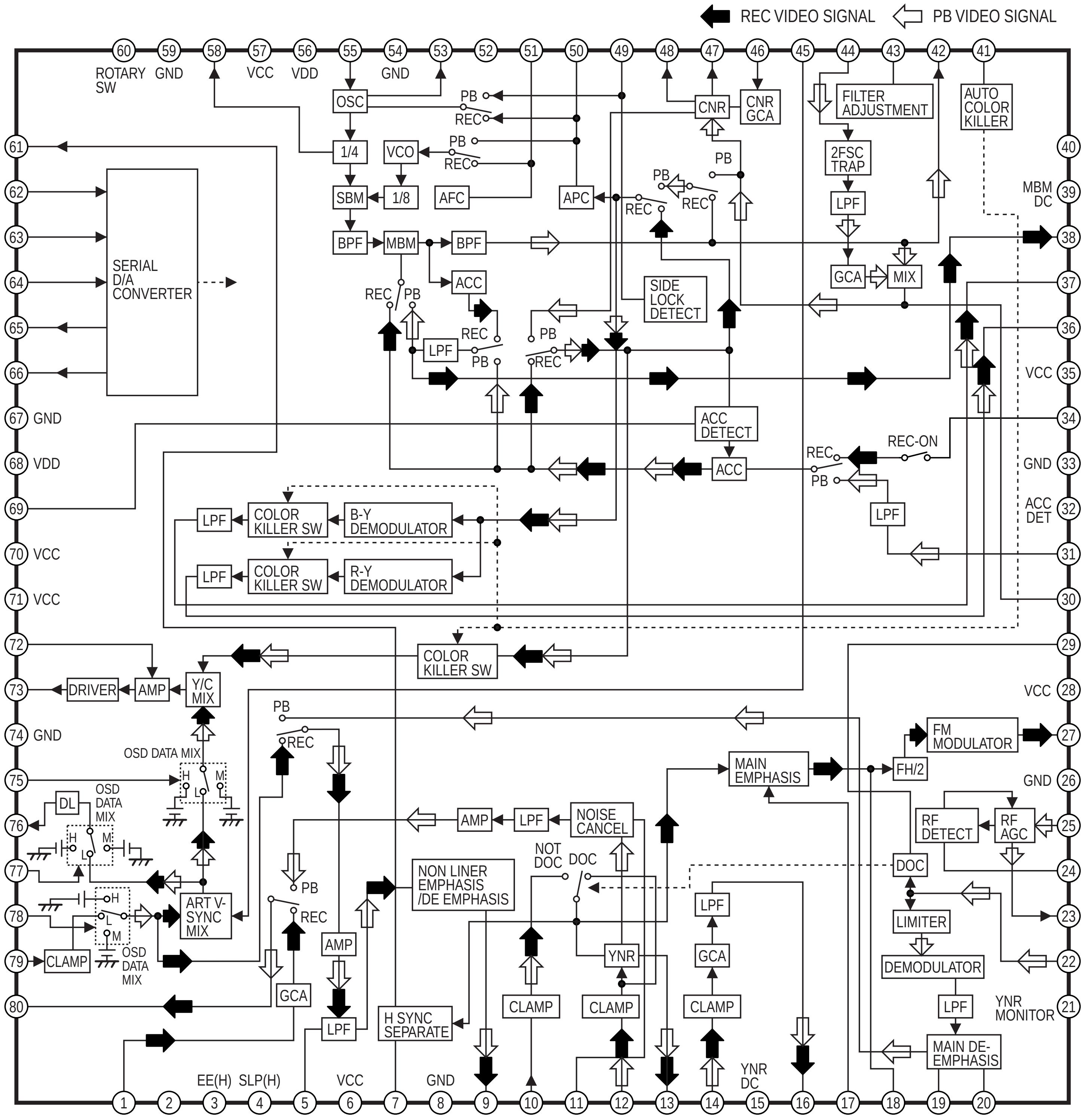


REC VIDEO SIGNAL
PB VIDEO SIGNAL
TO MAIN VIII
TUNER (H) 278
TO MAIN I
TUNER DET(H) 62
TO MAIN IV
TUNER LUMINANCE 271
TUNER CHROMINANCE /TUNER DET(+2V) 270
Q3030 DTA144EU (SWITCHING TUNER DET-ON)
Q3031 (SWITCHING TUNER DET-ON)
Q3032
Q3033
IC3003 NJU4053BV (SWITCHING)
IC3002 MN38663S (TWIN CCD 1H DELAY)
VCO
COMPARATOR
DRIVER
SHIFT REGISTER
SAMPLING HOLD
AMP
1/3
TP3004
TP3006
TP3001
TP3003
TP3002
TP3005
X3001 VSXW0080
FL3001 VLFW0041
IC3001 AN2401NFH (LUMINANCE/CHROMINANCE REC/PB PROCESS)
ROTARY SW
D/A CONVERTER
SIDE LOCK DET
AUTO COLOR KILLER
REC/PB CHROMINANCE SIGNAL PROCESS
B-Y DEMODULATOR
R-Y DEMODULATOR
ACC DET
CHROMA COMB
DROP OUT COMPENSATOR
Y/C MIX
ART V/H MIX
REC/PB LUMINANCE SIGNAL PROCESS
OSD DATA
OSD (DATE /TIME)DATA
AGC
YNR
Q3003 (BUFFER)
Q3004 CHROMA PHASE COMPENSATOR
Q3005 CHROMA PHASE COMPENSATOR
Q3027 (REC Y AMP)
Q3021 (REC Y AMP)
Q3022 (REC C AMP)
Q3026 (BUFFER)
Q3028 (BUFFER)
Q3029 (BUFFER)
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
WF14
TO MAIN I
V-LOCK PULSE 54
ROTARY SW 48
D/A LOAD 57
D/A SERIAL DATA 56
D/A SERIAL CLOCK 55
OSD DATA 58
OSD(DATE/TIME)DATA 59
HEAD AMP SW 49
HEAD SW 53
VIDEO DELAY REC(H) 51
FLYING ERASE ON(L) 52
VIDEO 60
ENVELOPE DET 50
ENV-VOLTAGE 47
TO MAIN VIII
AUDIO FADE CONTROL 109
AUDIO EE(H) 108
SLP(H) 110
TO MAIN VI
AUDIO EE(H) 92
TO MAIN IX
REG +4.5V 93
VIDEO 94
LUMINANCE 97
R-Y 98
B-Y 99
REG +4.8V 100
TO MAIN III
LUMINANCE 5
CHROMINANCE 3
REG +4.5V(1) 4
TO MAIN V
196 HEAD SW
198 REC-LUMINANCE
197 REC-CHROMINANCE
195 ENVELOPE
193 PB LUMINANCE
194 YNR
192 H-SYNC
TO MAIN II
154 CYL FG(-)
153 CYL FG(+)
157 VH-
158 VH+
155 CYL PG
168 VH-
165 H2+
160 VH+
164 H2-
169 H3+
159 VH+
167 H3-
163 H1+
161 VH+
162 H1-
170 MAIN COIL 1
156 MAIN COIL 2
166 MAIN COIL 3
FP6 (TO CYLINDER UNIT)
39 MAIN COIL 3
38 MAIN COIL 3
37 MAIN COIL 2
36 MAIN COIL 2
35 MAIN COIL 1
34 MAIN COIL 1
33 H1-
32 VH+
31 H1+
30
29 H3-
28 VH+(H3)
27 H3+
26
25 H2-
24 VH+
23 H2+
22 VH-
21 CYL PG
20 VH+
19 VH-
18 CYL FG(+)
17 CYL FG(-)
16 GND
15 GND
14 GND
13 GND
12 REG +4.5V
11 REG +4.5V
10 FLYING ERASE ON(L)
9 HEAD SW
8 HEAD AMP SW
7 REG +4.5V
6 REG +4.5V
5 VIDEO DELAY REC(H)
4 ENVELOPE DET
3 ENV-VOLTAGE
2 REC VIDEO
1 PB VIDEO
9 8 7 6 5 4 3 2 1
A B C D E F G H I J K L M N

UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R AND
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

IC3001 VIDEO/AUDIO PROCESS IC-DETAIL BLOCK DIAGRAM, AN2401NFH


REC VIDEO SIGNAL
PB VIDEO SIGNAL
ROTARY SW
GND
VCC
VDD
GND
OSC
1/4
VCO
SBM
1/8
AFC
APC
BPF
MBM
BPF
ACC
LPF
CNR
CNR GCA
FILTER ADJUSTMENT
AUTO COLOR KILLER
2FSC TRAP
LPF
GCA
MIX
SIDE LOCK DETECT
ACC DETECT
ACC
REC-ON
LPF
SERIAL D/A CONVERTER
GND
VDD
VCC
VCC
GND
COLOR KILLER SW
B-Y DEMODULATOR
COLOR KILLER SW
R-Y DEMODULATOR
COLOR KILLER SW
LPF
LPF
DRIVER
AMP
Y/C MIX
OSD DATA MIX
DL
OSD DATA MIX
H
L
M
ART V-SYNC MIX
CLAMP
OSD DATA MIX
GCA
AMP
LPF
H SYNC SEPARATE
NON LINER EMPHASIS /DE EMPHASIS
AMP
LPF
NOISE CANCEL
NOT DOC
DOC
YNR
CLAMP
CLAMP
LPF
GCA
CLAMP
MAIN EMPHASIS
FH/2
FM MODULATOR
RF DETECT
RF AGC
DOC
LIMITER
DEMODULATOR
LPF
MAIN DE-EMPHASIS
MBM DC
VCC
GND
ACC DET
VCC
GND
YNR MONITOR
EE(H)
SLP(H)
VCC
GND
YNR DC
REC
PB

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

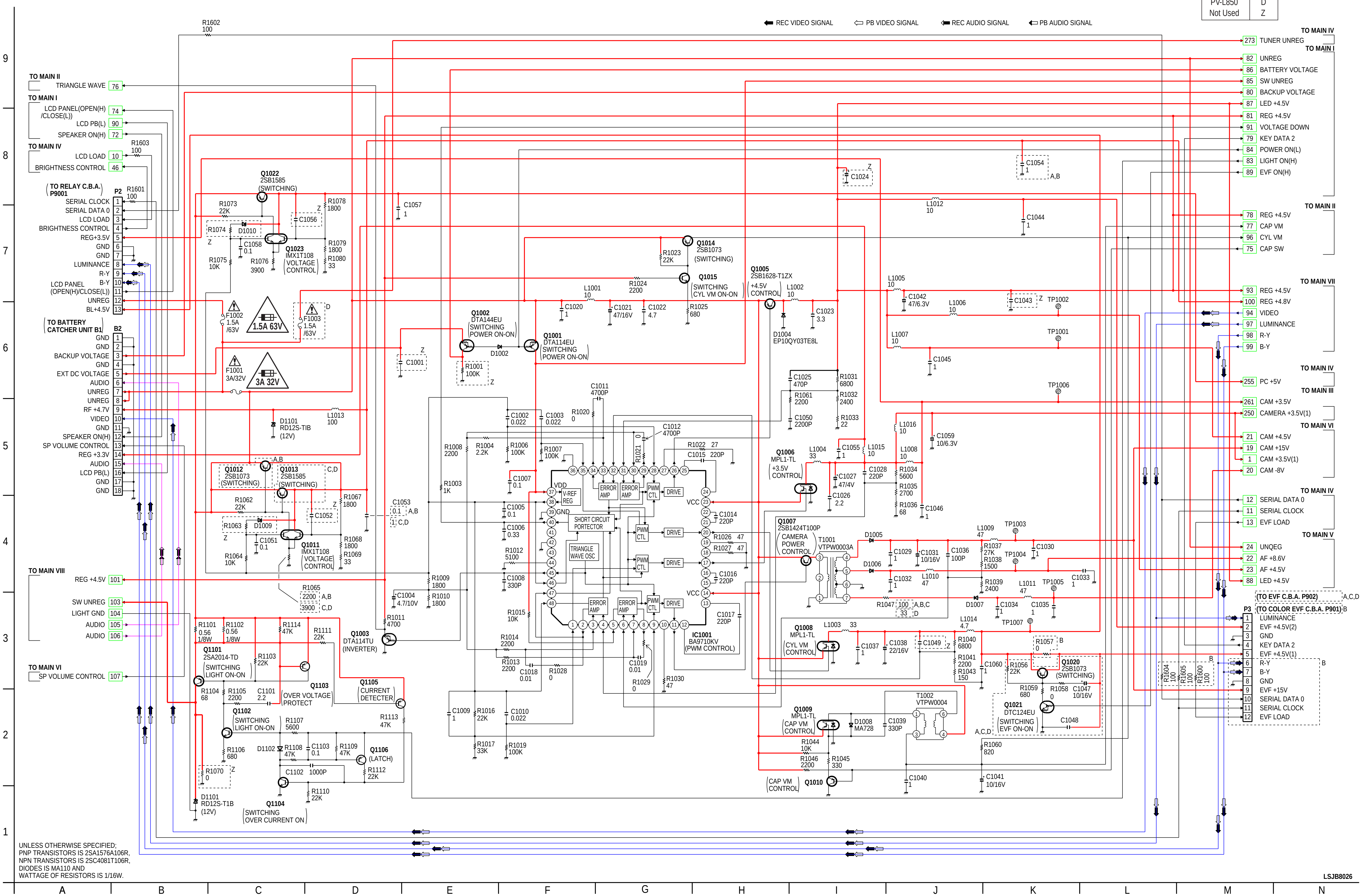
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 1.5A 63V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 1.5A 63V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 3A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 3A 32V

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

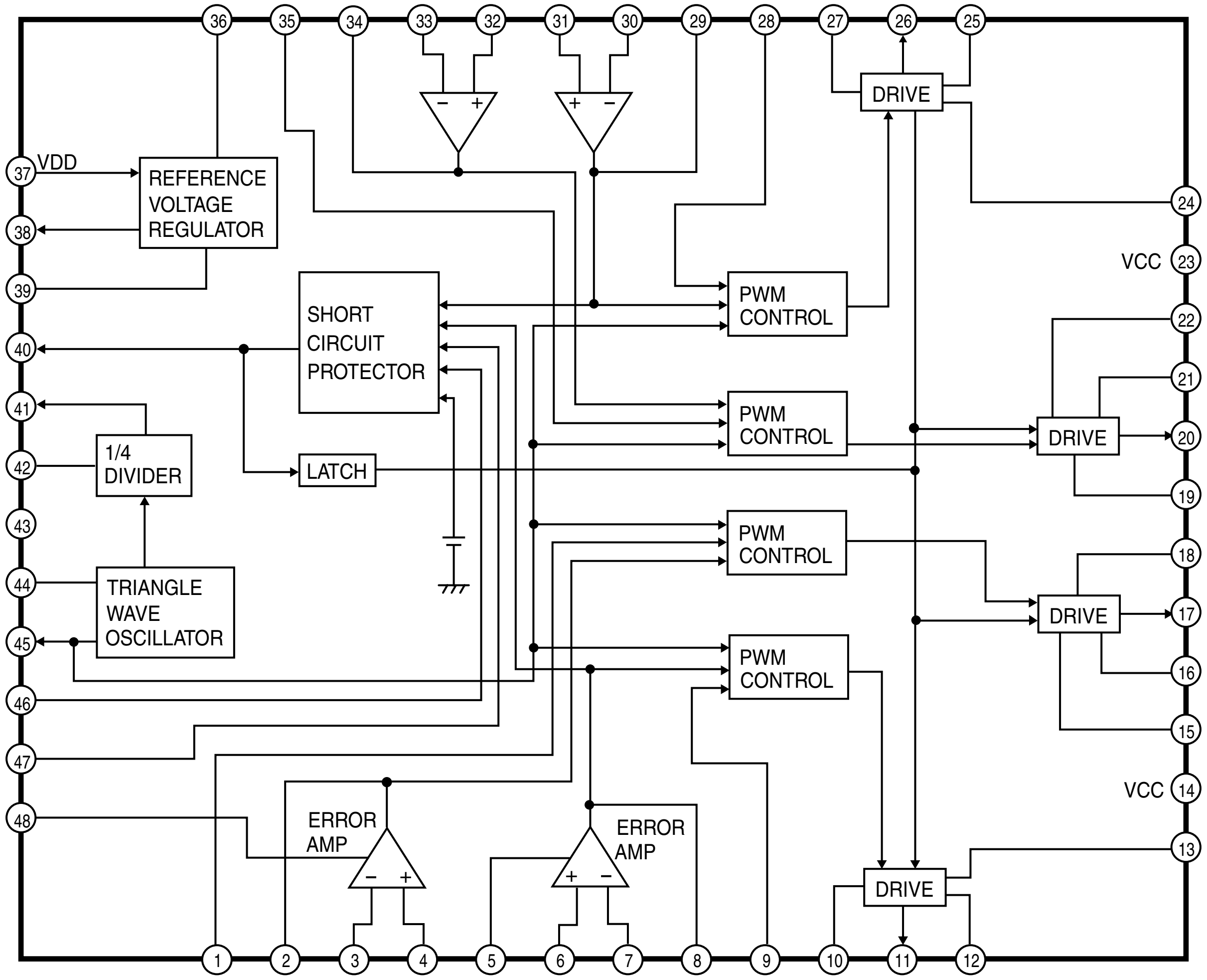


1.5A 63V
3A 32V
REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
TO MAIN II
TRIANGLE WAVE 76
TO MAIN I
LCD PANEL(OPEN(H)/CLOSE(L)) 74
LCD PB(L) 90
SPEAKER ON(H) 72
TO MAIN IV
LCD LOAD 10
BRIGHTNESS CONTROL 46
TO RELAY C.B.A. P9001
P2
SERIAL CLOCK 1
SERIAL DATA 0 2
LCD LOAD 3
BRIGHTNESS CONTROL 4
REG+3.5V 5
GND 6
GND 7
LUMINANCE 8
R-Y 9
B-Y 10
LCD PANEL (OPEN(H)/CLOSE(L)) 11
UNREG 12
BL+4.5V 13
TO BATTERY CATCHER UNIT B1
B2
GND 1
GND 2
BACKUP VOLTAGE 3
GND 4
EXT DC VOLTAGE 5
AUDIO 6
UNREG 7
UNREG 8
RF +4.7V 9
VIDEO 10
GND 11
SPEAKER ON(H) 12
SP VOLUME CONTROL 13
REG +3.3V 14
AUDIO 15
LCD PB(L) 16
GND 17
GND 18
TO MAIN VIII
REG +4.5V 101
SW UNREG 103
LIGHT GND 104
AUDIO 105
AUDIO 106
TO MAIN VI
SP VOLUME CONTROL 107
TO MAIN IV
273 TUNER UNREG
TO MAIN I
82 UNREG
86 BATTERY VOLTAGE
85 SW UNREG
80 BACKUP VOLTAGE
87 LED +4.5V
81 REG +4.5V
91 VOLTAGE DOWN
79 KEY DATA 2
84 POWER ON(L)
83 LIGHT ON(H)
89 EVF ON(H)
TO MAIN II
78 REG +4.5V
77 CAP VM
96 CYL VM
75 CAP SW
TO MAIN VII
93 REG +4.5V
100 REG +4.8V
94 VIDEO
97 LUMINANCE
98 R-Y
99 B-Y
TO MAIN IV
255 PC +5V
TO MAIN III
261 CAM +3.5V
250 CAMERA +3.5V(1)
TO MAIN VI
21 CAM +4.5V
19 CAM +15V
1 CAM +3.5V(1)
20 CAM -8V
TO MAIN IV
12 SERIAL DATA 0
11 SERIAL CLOCK
13 EVF LOAD
TO MAIN V
24 UNQEG
22 AF +8.6V
23 AF +4.5V
88 LED +4.5V
(TO EVF C.B.A. P902) A,C,D
P3 (TO COLOR EVF C.B.A. P901) B
1 LUMINANCE
2 EVF +4.5V(2)
3 GND
4 KEY DATA 2
5 EVF +4.5V(1)
6 R-Y
7 B-Y
8 GND
9 EVF +15V
10 SERIAL DATA 0
11 SERIAL CLOCK
12 EVF LOAD
IC1001 BA9710KV (PWM CONTROL)
Q1001 DTA114EU (SWITCHING POWER ON-ON)
Q1002 DTA144EU (SWITCHING POWER ON-ON)
Q1003 DTA114TU (INVERTER)
Q1005 2SB1628-T1ZX (+4.5V CONTROL)
Q1006 MPL1-TL (+3.5V CONTROL)
Q1007 2SB1424T100P (CAMERA POWER CONTROL)
Q1008 MPL1-TL (CYL VM CONTROL)
Q1009 MPL1-TL (CAP VM CONTROL)
Q1010 (CAP VM CONTROL)
Q1011 IMX1T108 (VOLTAGE CONTROL)
Q1012 2SB1073 (SWITCHING)
Q1013 2SB1585 (SWITCHING)
Q1014 2SB1073 (SWITCHING)
Q1015 (SWITCHING CYL VM ON-ON)
Q1020 2SB1073 (SWITCHING)
Q1021 DTC124EU (SWITCHING EVF ON-ON)
Q1022 2SB1585 (SWITCHING)
Q1023 IMX1T108 (VOLTAGE CONTROL)
Q1101 2SA2014-TD (SWITCHING LIGHT ON-ON)
Q1102 (SWITCHING LIGHT ON-ON)
Q1103 (OVER VOLTAGE PROTECT)
Q1104 (SWITCHING OVER CURRENT ON)
Q1105 (CURRENT DETECTER)
Q1106 (LATCH)
T1001 VTPW0003A
T1002 VTPW0004
D1004 EP10QY03TE8L
D1008 MA728
D1101 RD12S-TIB (12V)
F1001 3A/32V
F1002 1.5A /63V
F1003 1.5A /63V
V-REF REG
ERROR AMP
PWM CTL
DRIVE
SHORT CIRCUIT PORTECTOR
TRIANGLE WAVE OSC
VDD
VCC
GND
TP1001
TP1002
TP1003
TP1004
TP1005
TP1006
TP1007

UNLESS OTHERWISE SPECIFIED;
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R,
DIODES IS MA110 AND
WATTAGE OF RESISTORS IS 1/16W.

LSJB8026

IC1001 PWM CONTROL IC-DETAIL BLOCK DIAGRAM, BA9710KV

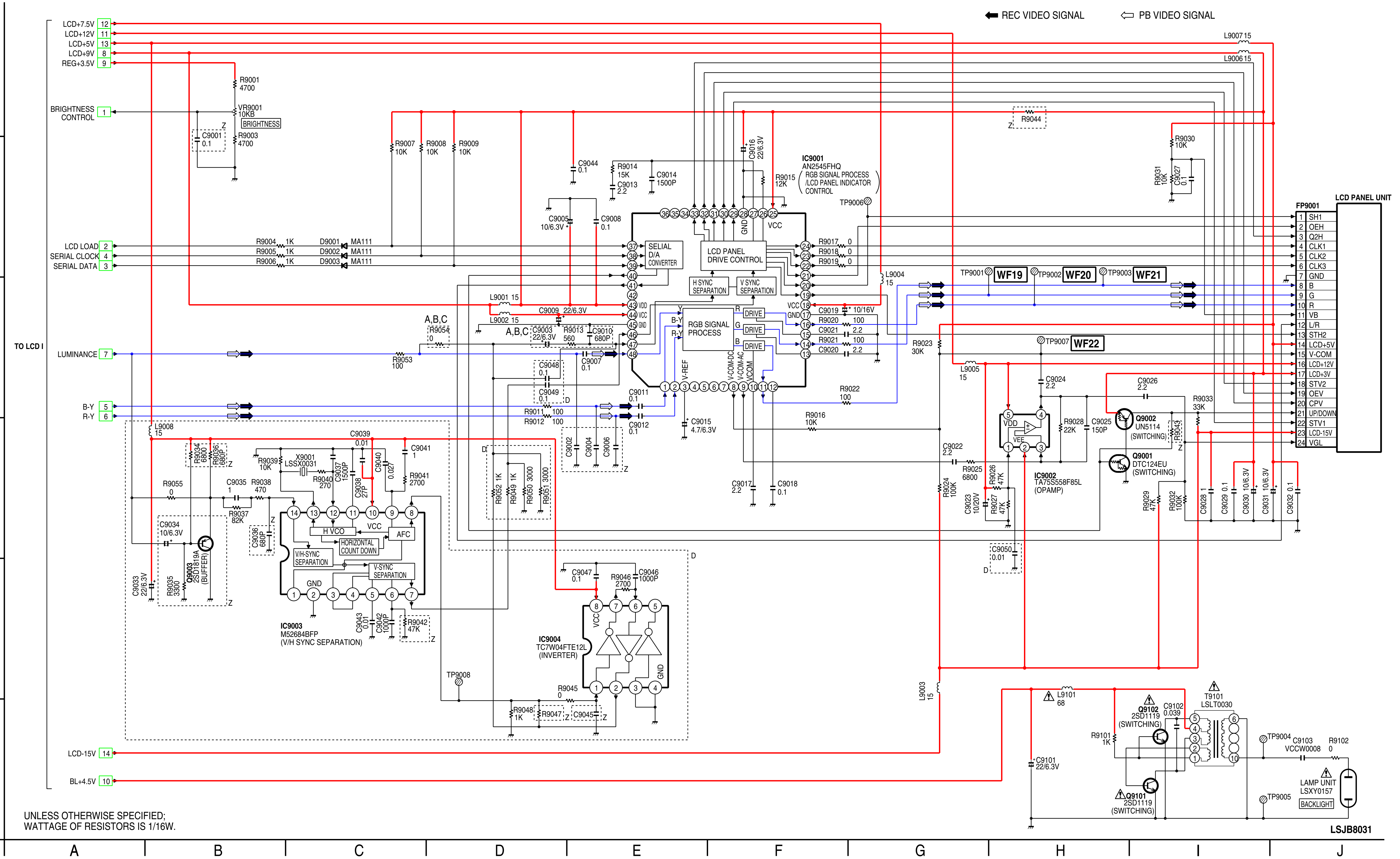

36
35
34
33
32
31
30
29
28
27
26
25
VDD
REFERENCE VOLTAGE REGULATOR
37
38
39
40
41
42
43
44
45
46
47
48
SHORT CIRCUIT PROTECTOR
LATCH
1/4 DIVIDER
TRIANGLE WAVE OSCILLATOR
PWM CONTROL
PWM CONTROL
PWM CONTROL
PWM CONTROL
DRIVE
DRIVE
DRIVE
DRIVE
24
VCC
23
22
21
20
19
18
17
16
15
VCC
14
13
ERROR AMP
ERROR AMP
1
2
3
4
5
6
7
8
9
10
11
12

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

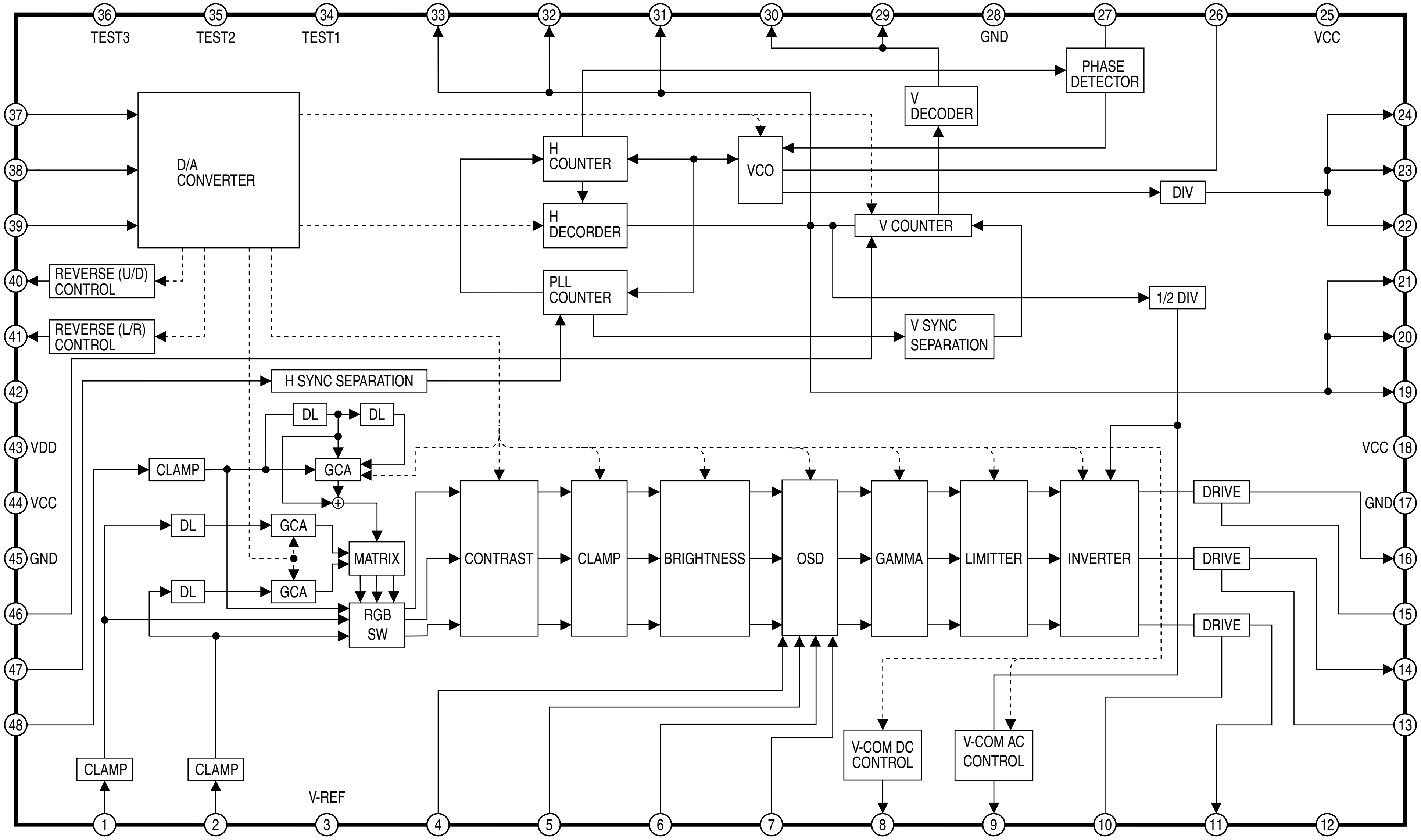


REC VIDEO SIGNAL
PB VIDEO SIGNAL
TO LCD I
LCD+7.5V 12
LCD+12V 11
LCD+5V 13
LCD+9V 8
REG+3.5V 9
BRIGHTNESS CONTROL 1
LCD LOAD 2
SERIAL CLOCK 4
SERIAL DATA 3
LUMINANCE 7
B-Y 5
R-Y 6
LCD-15V 14
BL+4.5V 10
R9001 4700
VR9001 10KB BRIGHTNESS
C9001 0.1
R9003 4700
R9004 1K
R9005 1K
R9006 1K
D9001 MA111
D9002 MA111
D9003 MA111
R9007 10K
R9008 10K
R9009 10K
C9044 0.1
R9014 15K
C9013 2.2
C9014 1500P
C9016 22/6.3V
R9015 12K
IC9001
AN2545FHQ
(RGB SIGNAL PROCESS /LCD PANEL INDICATOR CONTROL)
TP9006
C9005 10/6.3V
C9008 0.1
SELIAL D/A CONVERTER
LCD PANEL DRIVE CONTROL
H SYNC SEPARATION
V SYNC SEPARATION
RGB SIGNAL PROCESS
DRIVE
VCC
GND
V-REF
V-COM-DC
V-COM-AC
VCOM
R9017 0
R9018 0
R9019 0
L9004 15
C9019 10/16V
R9020 100
C9021 2.2
R9021 100
C9020 2.2
R9023 30K
L9001 15
L9002 15
C9009 22/6.3V
A,B,C
R9054 0
C9003 22/6.3V
R9013 560
C9010 680P
C9007 0.1
R9053 100
C9048 0.1
C9049 0.1
C9011 0.1
C9012 0.1
R9011 100
R9012 100
C9015 4.7/6.3V
R9022 100
R9016 10K
C9017 2.2
C9018 0.1
C9002
C9004
C9006
R9052 1K
R9049 1K
R9050 3000
R9051 3000
L9008 15
R9034 6800
R9036 680P
R9039 10K
X9001 LSSX0031
C9039 0.01
C9041 1
R9041 2700
C9037 1500P
C9038 27P
C9040 0.027
R9040 270
R9055 0
C9035 1
R9038 470
R9037 82K
C9034 10/6.3V
C9036 680P
C9033 22/6.3V
R9035 3300
Q9003 2SD1819A (BUFFER)
H VCO
AFC
HORIZONTAL COUNT DOWN
V/H-SYNC SEPARATION
V-SYNC SEPARATION
GND
IC9003
M52684BFP
(V/H SYNC SEPARATION)
C9043 0.01
C9042 1000P
R9042 47K
C9047 0.1
R9046 2700
C9046 1000P
IC9004
TC7W04FTE12L
(INVERTER)
TP9008
R9045 0
R9048 1K
R9047
C9045
TP9001 WF19
TP9002 WF20
TP9003 WF21
TP9007 WF22
L9007 15
L9006 15
R9044
R9030 10K
R9031 10K
C9027 0.1
L9005 15
C9024 2.2
C9026 2.2
R9033 33K
R9028 22K
C9025 150P
Q9002 UN5114 (SWITCHING)
Q9001 DTC124EU (SWITCHING)
R9043
C9022 2.2
R9025 6800
R9026 47K
R9024 100K
C9023 10/20V
R9027 47K
IC9002 TA75S558F85L (OPAMP)
C9050 0.01
R9029 47K
R9032 100K
C9028 1
C9029 0.1
C9030 10/6.3V
C9031 10/6.3V
C9032 0.1
LCD PANEL UNIT
FP9001
1 SH1
2 OEH
3 Q2H
4 CLK1
5 CLK2
6 CLK3
7 GND
8 B
9 G
10 R
11 VB
12 L/R
13 STH2
14 LCD+5V
15 V-COM
16 LCD+12V
17 LCD+3V
18 STV2
19 OEV
20 CPV
21 UP/DOWN
22 STV1
23 LCD-15V
24 VGL
L9003 15
L9101 68
C9101 22/6.3V
Q9102 2SD1119 (SWITCHING)
C9102 0.039
T9101 LSLT0030
R9101 1K
Q9101 2SD1119 (SWITCHING)
TP9004
C9103 VCCW0008
R9102 0
TP9005
LAMP UNIT LSXY0157
BACKLIGHT
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J

UNLESS OTHERWISE SPECIFIED;
WATTAGE OF RESISTORS IS 1/16W.

LSJB8031

IC9001 RGB SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL IC-DETAIL BLOCK DIAGARM, AN2545FHQ

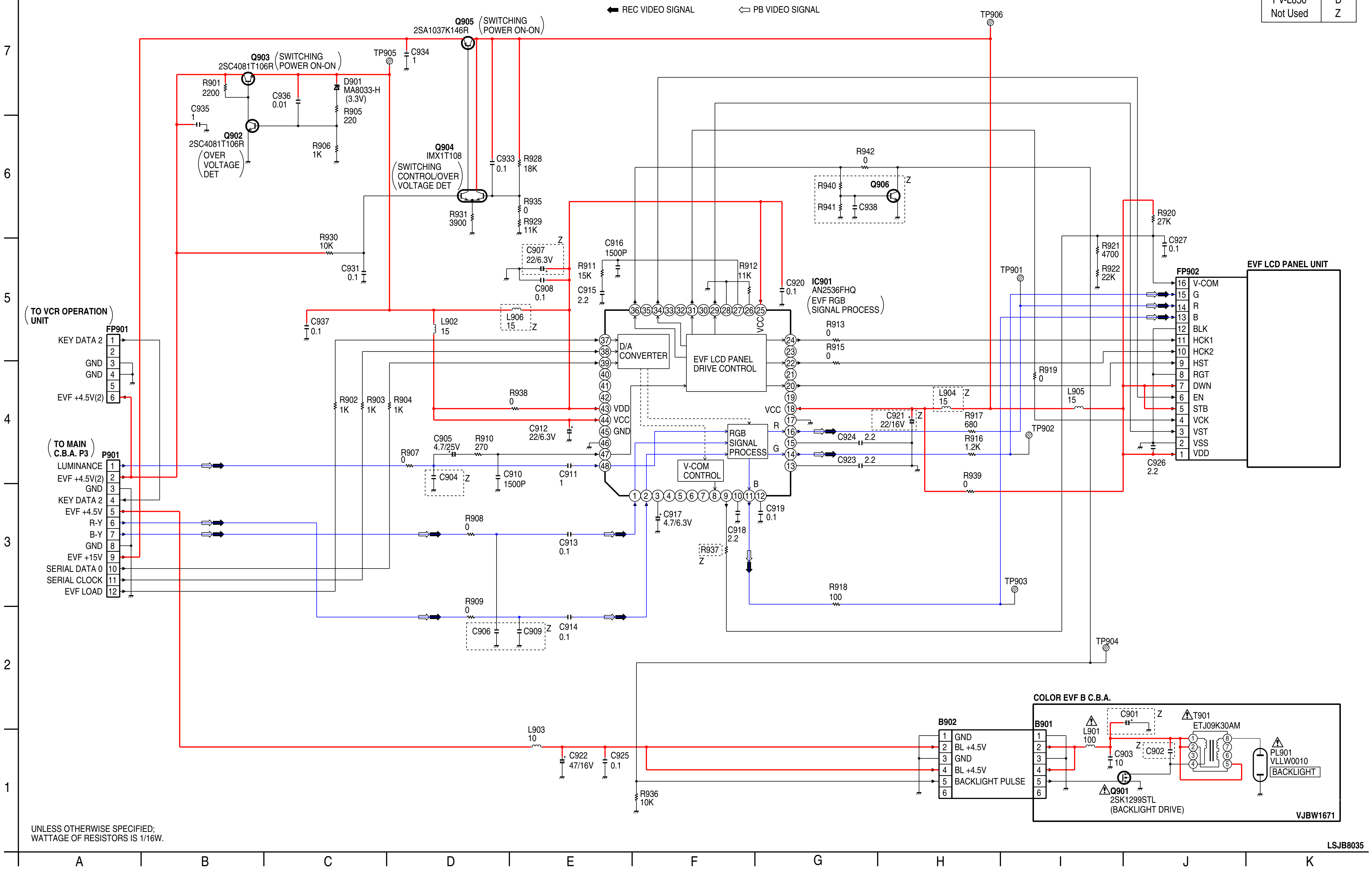

36
TEST3
35
TEST2
34
TEST1
33
32
31
30
29
28
GND
27
26
25
VCC
PHASE DETECTOR
V DECODER
37
38
39
D/A CONVERTER
H COUNTER
VCO
24
23
22
DIV
H DECORDER
V COUNTER
40
REVERSE (U/D) CONTROL
PLL COUNTER
21
1/2 DIV
41
REVERSE (L/R) CONTROL
V SYNC SEPARATION
20
42
H SYNC SEPARATION
19
DL
DL
43
VDD
VCC
18
CLAMP
GCA
44
VCC
GND
17
DRIVE
DL
GCA
45
GND
MATRIX
CONTRAST
CLAMP
BRIGHTNESS
OSD
GAMMA
LIMITTER
INVERTER
DRIVE
16
DL
GCA
46
RGB SW
DRIVE
15
47
14
48
13
CLAMP
CLAMP
V-REF
V-COM DC CONTROL
V-COM AC CONTROL
1
2
3
4
5
6
7
8
9
10
11
12

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D
Not Used	Z

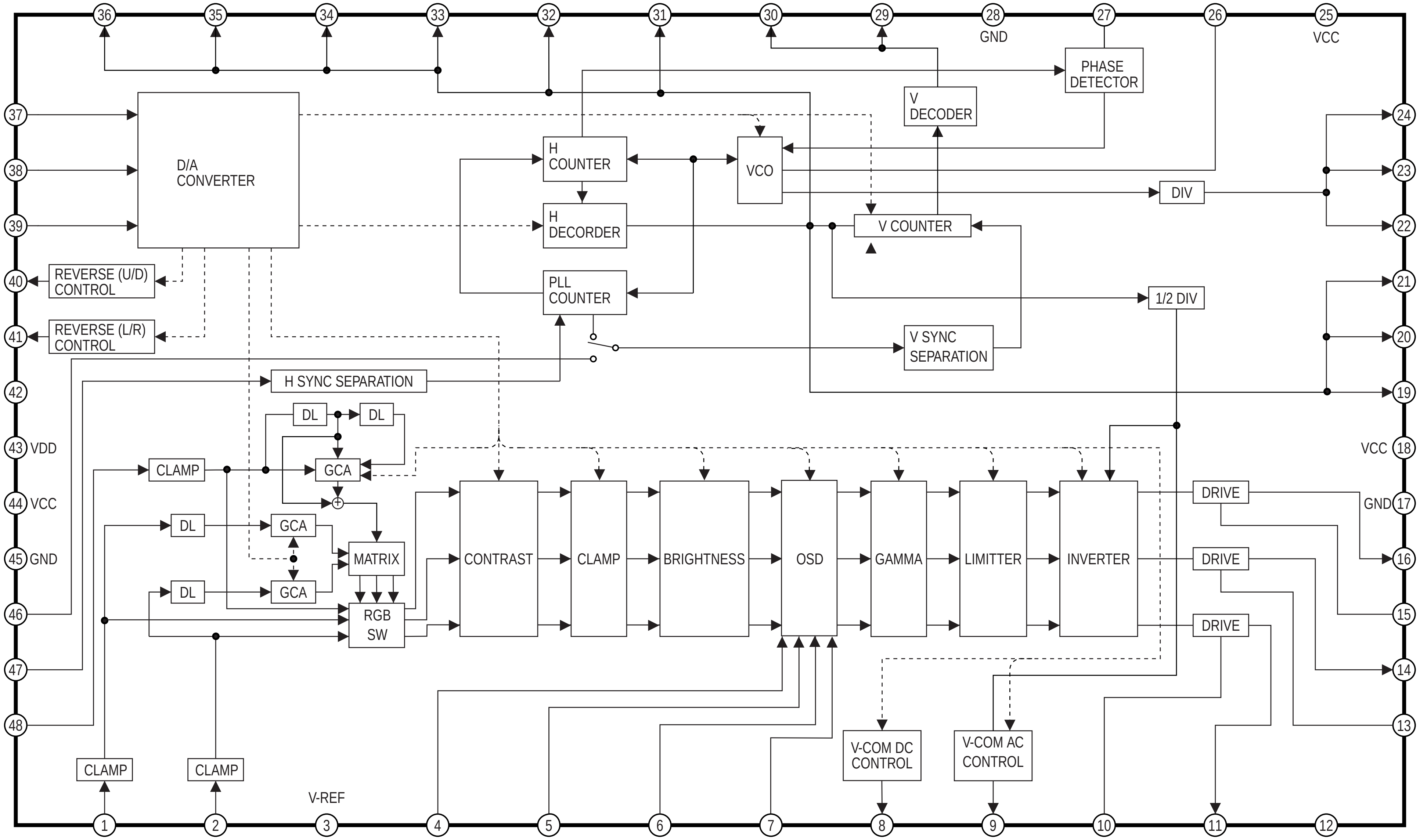


REC VIDEO SIGNAL
PB VIDEO SIGNAL
Q905 (SWITCHING POWER ON-ON)
2SA1037K146R
Q903 (SWITCHING POWER ON-ON)
2SC4081T106R
Q902
2SC4081T106R
(OVER VOLTAGE DET)
Q904
IMX1T108
(SWITCHING CONTROL/OVER VOLTAGE DET)
TP905
TP906
TP901
TP902
TP903
TP904
C934 1
R901 2200
C935 1
C936 0.01
D901 MA8033-H (3.3V)
R905 220
R906 1K
C933 0.1
R928 18K
R935 0
R929 11K
R931 3900
R930 10K
C931 0.1
C907 22/6.3V
C908 0.1
C916 1500P
R911 15K
C915 2.2
R912 11K
C920 0.1
IC901
AN2536FHQ
(EVF RGB SIGNAL PROCESS)
R942 0
R940
R941
Q906
C938
R920 27K
C927 0.1
R921 4700
R922 22K
EVF LCD PANEL UNIT
FP902
16 V-COM
15 G
14 R
13 B
12 BLK
11 HCK1
10 HCK2
9 HST
8 RGT
7 DWN
6 EN
5 STB
4 VCK
3 VST
2 VSS
1 VDD
C926 2.2
TO VCR OPERATION UNIT
FP901
KEY DATA 2
GND
GND
EVF +4.5V(2)
C937 0.1
L902 15
L906 15
D/A CONVERTER
EVF LCD PANEL DRIVE CONTROL
VCC
R913 0
R915 0
R919 0
L904 15
L905 15
C921 22/16V
R917 680
R916 1.2K
C924 2.2
C923 2.2
R939 0
VDD
VCC
GND
R902 1K
R903 1K
R904 1K
R938 0
C912 22/6.3V
C905 4.7/25V
R910 270
R907 0
C904
C910 1500P
C911 1
RGB SIGNAL PROCESS
V-COM CONTROL
R
G
B
TO MAIN C.B.A. P3
P901
1 LUMINANCE
2 EVF +4.5V(2)
3 GND
4 KEY DATA 2
5 EVF +4.5V
6 R-Y
7 B-Y
8 GND
9 EVF +15V
10 SERIAL DATA 0
11 SERIAL CLOCK
12 EVF LOAD
R908 0
C913 0.1
C917 4.7/6.3V
C918 2.2
C919 0.1
R937
R918 100
R909 0
C906
C909
C914 0.1
L903 10
C922 47/16V
C925 0.1
R936 10K
B902
1 GND
2 BL +4.5V
3 GND
4 BL +4.5V
5 BACKLIGHT PULSE
6
COLOR EVF B C.B.A.
B901
C901
L901 100
C903 10
C902
T901
ETJ09K30AM
PL901
VLLW0010
BACKLIGHT
Q901
2SK1299STL
(BACKLIGHT DRIVE)
VJBW1671
A B C D E F G H I J K
1 2 3 4 5 6 7

UNLESS OTHERWISE SPECIFIED;
WATTAGE OF RESISTORS IS 1/16W.

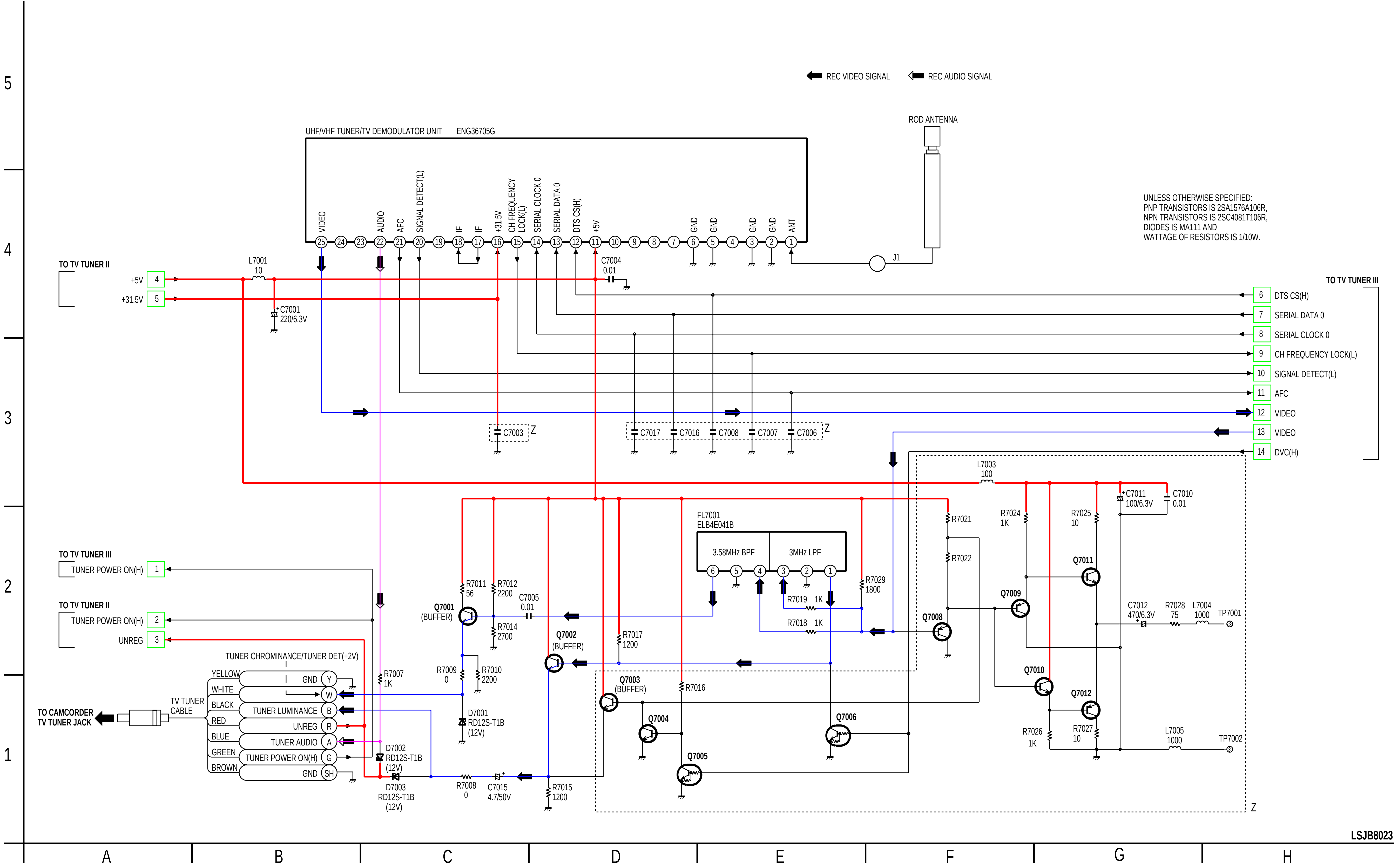
LSJB8035

IC901 RGB SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL IC-DETAIL BLOCK DIAGARM, AN2536FHQ


36
35
34
33
32
31
30
29
28
GND
27
26
25
VCC
PHASE DETECTOR
V DECODER
37
38
39
D/A CONVERTER
H COUNTER
VCO
H DECORDER
V COUNTER
DIV
24
23
22
40
REVERSE (U/D) CONTROL
PLL COUNTER
1/2 DIV
21
41
REVERSE (L/R) CONTROL
V SYNC SEPARATION
20
42
H SYNC SEPARATION
19
DL
DL
43 VDD
VCC 18
CLAMP
GCA
44 VCC
GND 17
DL
GCA
DRIVE
45 GND
MATRIX
CONTRAST
CLAMP
BRIGHTNESS
OSD
GAMMA
LIMITTER
INVERTER
DRIVE
16
DL
GCA
46
RGB SW
DRIVE
15
47
14
48
13
CLAMP
CLAMP
V-REF
V-COM DC CONTROL
V-COM AC CONTROL
1
2
3
4
5
6
7
8
9
10
11
12

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

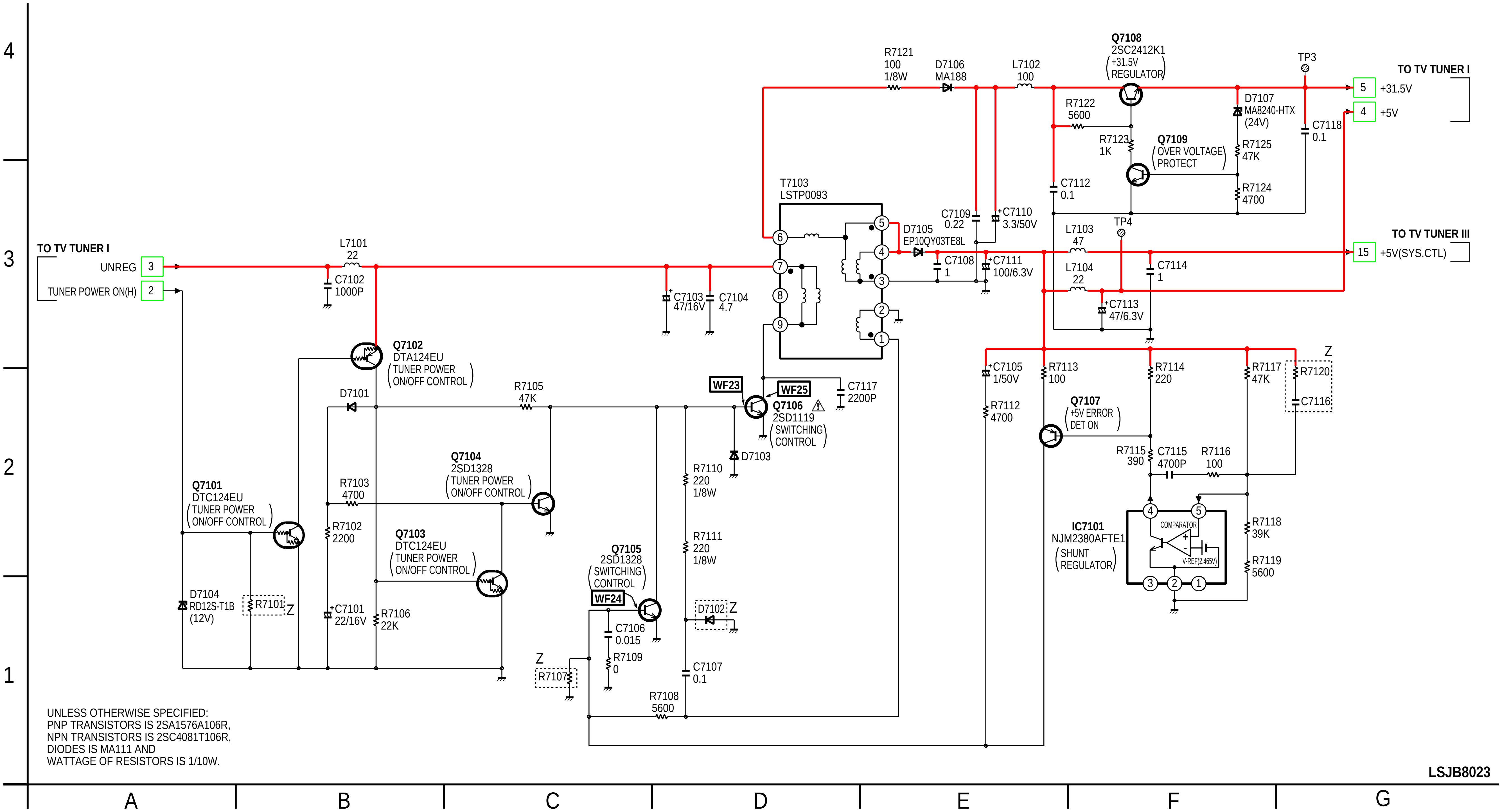
NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "Z" ARE NOT USED.


REC VIDEO SIGNAL
REC AUDIO SIGNAL
ROD ANTENNA
UHF/VHF TUNER/TV DEMODULATOR UNIT ENG36705G
VIDEO
AUDIO
AFC
SIGNAL DETECT(L)
IF
IF
+31.5V
CH FREQUENCY LOCK(L)
SERIAL CLOCK 0
SERIAL DATA 0
DTS CS(H)
+5V
GND
GND
GND
GND
ANT
J1
TO TV TUNER II
+5V
+31.5V
L7001 10
C7001 220/6.3V
C7004 0.01
TO TV TUNER III
DTS CS(H)
SERIAL DATA 0
SERIAL CLOCK 0
CH FREQUENCY LOCK(L)
SIGNAL DETECT(L)
AFC
VIDEO
VIDEO
DVC(H)
C7003
C7017
C7016
C7008
C7007
C7006
Z
L7003 100
C7011 100/6.3V
C7010 0.01
R7021
R7022
R7024 1K
R7025 10
FL7001 ELB4E041B
3.58MHz BPF
3MHz LPF
R7029 1800
R7019 1K
R7018 1K
Q7011
Q7009
Q7008
C7012 470/6.3V
R7028 75
L7004 1000
TP7001
TO TV TUNER III
TUNER POWER ON(H)
TO TV TUNER II
TUNER POWER ON(H)
UNREG
R7011 56
R7012 2200
C7005 0.01
Q7001 (BUFFER)
R7014 2700
Q7002 (BUFFER)
R7017 1200
R7009 0
R7010 2200
R7007 1K
TUNER CHROMINANCE/TUNER DET(+2V)
YELLOW
WHITE
BLACK
RED
BLUE
GREEN
BROWN
GND
TUNER LUMINANCE
UNREG
TUNER AUDIO
TUNER POWER ON(H)
GND
Y
W
B
R
A
G
SH
TV TUNER CABLE
TO CAMCORDER TV TUNER JACK
D7001 RD12S-T1B (12V)
D7002 RD12S-T1B (12V)
D7003 RD12S-T1B (12V)
R7008 0
C7015 4.7/50V
R7015 1200
Q7003 (BUFFER)
R7016
Q7004
Q7005
Q7006
Q7010
Q7012
R7026 1K
R7027 10
L7005 1000
TP7002
Z
LSJB8023
A
B
C
D
E
F
G
H
1
2
3
4
5

UNLESS OTHERWISE SPECIFIED:
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R,
DIODES IS MA111 AND
WATTAGE OF RESISTORS IS 1/10W.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "Z" ARE NOT USED.

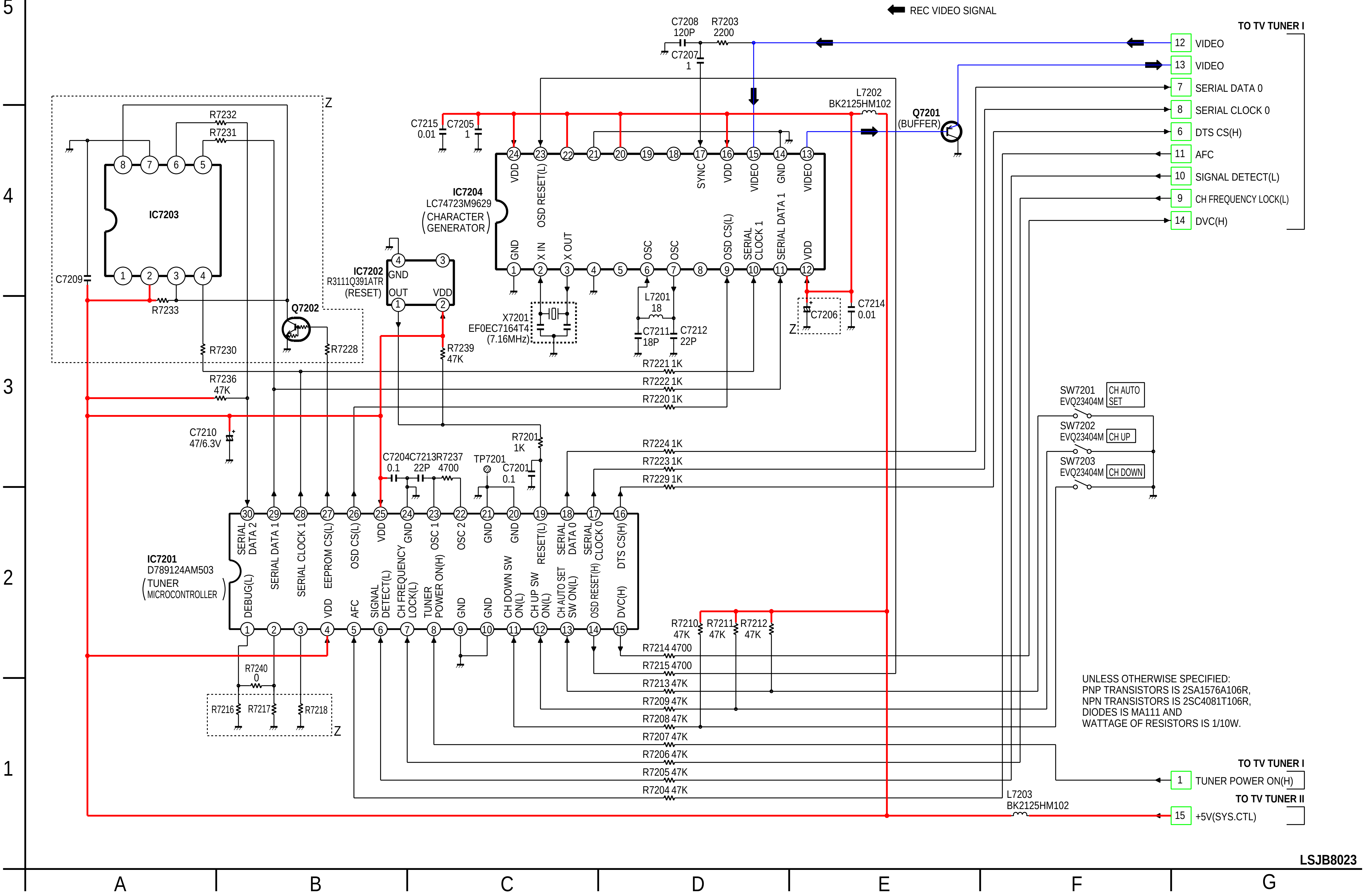

TO TV TUNER I
UNREG 3
TUNER POWER ON(H) 2
L7101 22
C7102 1000P
Q7102 DTA124EU
TUNER POWER ON/OFF CONTROL
D7101
R7105 47K
Q7101 DTC124EU
TUNER POWER ON/OFF CONTROL
R7103 4700
R7102 2200
Q7104 2SD1328
TUNER POWER ON/OFF CONTROL
Q7103 DTC124EU
TUNER POWER ON/OFF CONTROL
D7104 RD12S-T1B (12V)
R7101 Z
C7101 22/16V
R7106 22K
Q7105 2SD1328
SWITCHING CONTROL
WF24
C7106 0.015
R7109 0
Z R7107
R7108 5600
C7103 47/16V
C7104 4.7
R7110 220 1/8W
R7111 220 1/8W
D7102 Z
C7107 0.1
WF23
WF25
Q7106 2SD1119
SWITCHING CONTROL
D7103
C7117 2200P
T7103 LSTP0093
R7121 100 1/8W
D7106 MA188
L7102 100
C7109 0.22
C7110 3.3/50V
D7105 EP10QY03TE8L
C7108 1
C7111 100/6.3V
Q7108 2SC2412K1
+31.5V REGULATOR
R7122 5600
R7123 1K
Q7109
OVER VOLTAGE PROTECT
D7107 MA8240-HTX (24V)
R7125 47K
R7124 4700
C7112 0.1
TP4
TP3
C7118 0.1
TO TV TUNER I
5 +31.5V
4 +5V
TO TV TUNER III
15 +5V(SYS.CTL)
L7103 47
L7104 22
C7113 47/6.3V
C7114 1
C7105 1/50V
R7112 4700
R7113 100
Q7107
+5V ERROR DET ON
R7114 220
R7117 47K
R7120
C7116
Z
R7115 390
C7115 4700P
R7116 100
IC7101 NJM2380AFTE1
SHUNT REGULATOR
COMPARATOR
V-REF(2.465V)
R7118 39K
R7119 5600
A
B
C
D
E
F
G
1
2
3
4

UNLESS OTHERWISE SPECIFIED:
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R,
DIODES IS MA111 AND
WATTAGE OF RESISTORS IS 1/10W.

LSJB8023

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "Z" ARE NOT USED.


REC VIDEO SIGNAL
TO TV TUNER I
12 VIDEO
13 VIDEO
7 SERIAL DATA 0
8 SERIAL CLOCK 0
6 DTS CS(H)
11 AFC
10 SIGNAL DETECT(L)
9 CH FREQUENCY LOCK(L)
14 DVC(H)
TO TV TUNER I
1 TUNER POWER ON(H)
TO TV TUNER II
15 +5V(SYS.CTL)
IC7203
IC7204
LC74723M9629
(CHARACTER GENERATOR)
IC7202
R3111Q391ATR
(RESET)
GND
OUT
VDD
IC7201
D789124AM503
(TUNER MICROCONTROLLER)
Q7201
(BUFFER)
Q7202
X7201
EF0EC7164T4
(7.16MHz)
L7201 18
L7202 BK2125HM102
L7203 BK2125HM102
C7208 120P
R7203 2200
C7207 1
C7215 0.01
C7205 1
C7214 0.01
C7206
C7211 18P
C7212 22P
C7209
C7210 47/6.3V
C7204 0.1
C7213 22P
R7237 4700
C7201 0.1
TP7201
R7201 1K
R7232
R7231
R7233
R7230
R7228
R7239 47K
R7236 47K
R7221 1K
R7222 1K
R7220 1K
R7224 1K
R7223 1K
R7229 1K
R7210 47K
R7211 47K
R7212 47K
R7214 4700
R7215 4700
R7213 47K
R7209 47K
R7208 47K
R7207 47K
R7206 47K
R7205 47K
R7204 47K
R7240 0
R7216
R7217
R7218
SW7201 EVQ23404M CH AUTO SET
SW7202 EVQ23404M CH UP
SW7203 EVQ23404M CH DOWN
VDD
OSD RESET(L)
SYNC
VIDEO
GND
GND
X IN
X OUT
OSC
OSC
OSD CS(L)
SERIAL CLOCK 1
SERIAL DATA 1
SERIAL DATA 2
SERIAL CLOCK 1
EEPROM CS(L)
OSC 1
OSC 2
RESET(L)
SERIAL DATA 0
SERIAL CLOCK 0
DTS CS(H)
DEBUG(L)
AFC
SIGNAL DETECT(L)
CH FREQUENCY LOCK(L)
TUNER POWER ON(H)
CH DOWN SW ON(L)
CH UP SW ON(L)
CH AUTO SET SW ON(L)
OSD RESET(H)
DVC(H)
Z
5
4
3
2
1
A
B
C
D
E
F
G

UNLESS OTHERWISE SPECIFIED:
PNP TRANSISTORS IS 2SA1576A106R,
NPN TRANSISTORS IS 2SC4081T106R,
DIODES IS MA111 AND
WATTAGE OF RESISTORS IS 1/10W.

LSJB8023

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (CAMERA SECTION)

MODE / PIN NO.	CAMERA
IC301	
1	1.7
2	---
3	---
4	3.5
5	3.5
6	3.5
7	3.5
8	3.5
9	3.5
10	---
11	3.5
12	3.5
13	3.5
14	3.5
15	3.5
16	0
17	1.7
18	1.6
19	1.6
20	1.6
21	1.4
22	1.3
23	1.1
24	1.4
25	1.7
26	1.5
27	0
28	3.5
29	1.6
30	1.6
31	1.8
32	1.7
33	1.7
34	1.8
35	1.8
36	1.7
37	1.7
38	1.7
39	0
40	0
41	0
42	0
43	0
44	---
45	0
46	1.7
47	---
48	---
49	---
50	3.2
51	0
52	3.5
53	0
54	0
55	3.5
56	0
57	3.5
58	---
59	---
60	0
61	3.5
62	---
63	---
64	---
65	---
66	---
67	---
68	---
69	1.7
70	0
71	0
72	0
73	1.0
74	1.9
75	3.5
76	0
77	3.1
78	2.8
79	0
80	3.5
81	1.9
82	1.0
83	0
84	1.7
85	3.5
86	0
87	0
88	---
89	1.7
90	1.7
91	0
92	0
93	3.5
94	---
95	---
96	2.5
97	0
98	1.0
99	3.1
100	0
101	0.2
102	0.3
103	3.4
104	3.4
105	---
106	0
107	3.4
108	1.7
109	3.4
110	1.3
111	3.3
112	1.9
113	0
114	3.5
115	0.1
116	0.4
117	0
118	0
119	0
120	3.5
121	0
122	0.3
123	3.4
124	0.8
125	1.6
126	2.8
127	0.8
128	0.9
129	0.8
130	1.0
131	0.7
132	0.7
133	0.9
134	0
135	3.5
136	0.9
137	---
138	1.7
139	0
140	0
141	0
142	0
143	0
144	0
IC302	
1	3.5
2	3.5
3	3.5
4	3.5
5	1.7
6	3.5
7	3.5
8	3.5
9	3.5
10	---
11	---
12	---
13	1.6
14	1.7
15	1.5
16	1.8
17	1.4
18	1.4
19	1.5
20	0.9
21	3.5
22	---
23	---
24	1.7
25	1.7
26	1.7
27	1.7
28	---
29	---
30	---
31	---
32	---
33	3.5
34	0
35	0
36	0
37	0
38	---
39	---
40	---
41	---
42	3.5
43	0
44	1.8
45	1.7
46	1.7
47	1.6
48	---
49	---
50	0.7
51	2.2
52	1.7
53	1.8
54	3.5
55	0
56	1.6
57	1.7
58	1.7
59	1.7
60	---
61	0
62	0
63	3.5
64	3.4
65	1.6
66	0
67	1.7
68	0
69	3.5
70	3.5
IC304	
1	3.4
2	0
3	---
4	0
5	0
6	1.7
7	0
8	3.5
IC306	
1	---
2	3.5
3	0.3
4	3.5
5	3.5
6	0.7
7	0
8	3.5
IC309	
1	2.8
2	1.5
3	1.9
4	8.1
5	1.3
6	1.4
7	1.4
8	2.5
9	0.9
10	1.2
11	0
12	0.7
13	0.7
14	0.3
IC310	
1	3.4
2	1.6
3	1.7
4	1.6
5	1.7
6	1.5
7	1.7
8	1.7
9	1.7
10	0
11	1.8
12	1.8
13	1.7
14	1.5
15	1.7
16	1.7
17	1.7
18	1.6
19	3.4
20	3.5
IC311	
1	0
2	3.0
3	1.4
4	3.0
5	1.4
6	3.0
7	1.5
8	0
9	0.9
10	0
11	1.4
12	---
13	1.3
14	3.5
15	1.1
16	1.6
17	1.4
18	3.5
19	0
20	3.5
IC503	
1	7.2
2	9.6
3	2.4
4	4.9
5	4.7
6	9.5
7	---
8	---
9	---
10	---
11	3.4
12	4.6
13	0
14	9.0
15	0
16	4.8
IC504	
1	1.6
2	0
3	0.7
4	0.3
5	0.2
6	0
7	0.4
8	0.4
9	0.4
10	0.4
11	0.4
12	0.4
13	0.4
14	0.4
15	3.6
16	0.4
17	0.4
18	0.4
19	0.4
20	0.4
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	3.6
30	0
31	3.6
32	3.6
33	3.6
34	3.6
35	3.6
36	3.6
37	3.6
38	3.6
39	3.6
40	0
41	0
42	0
43	0
44	0
45	0
46	3.6
47	3.6
48	3.6
49	3.6
50	1.8
51	1.8
52	1.7
53	3.6
54	0
55	0.5
56	0
57	0
58	0
59	0
60	3.4
61	0
62	0
63	0.4
64	0.7
65	1.8
66	1.8
67	3.6
68	1.9
69	3.6
70	1.7
71	3.6
72	0
73	3.6
74	0.4
75	1.8
76	1.8
77	1.8
78	1.8
79	0
80	0.2
81	0.8
82	1.4
83	1.4
84	4.3
85	3.6
86	1.5
87	4.7
88	1.6
89	0
90	0.7
91	1.5
92	1.9
93	2.0
94	2.1
95	1.9
96	2.0
97	2.0
98	0.9
99	1.2
100	3.7
101	3.7
102	1.4
103	4.2
104	2.7
105	1.9
106	3.6
107	4.4
108	4.4
109	0.3
110	0.4
111	2.8
112	0
113	0.9
114	2.0
115	2.1
116	2.0
117	3.6
118	1.0
119	0
120	0.2
121	3.6
122	0
123	1.0
124	1.0
125	1.0
126	1.0
127	1.0
128	1.0
129	1.0
130	1.0
131	1.0
132	1.1
133	1.1
134	1.0
135	1.0
136	0
137	0.9
138	0
139	3.6
140	1.0
141	0
142	0.9
143	1.0
144	3.6
145	3.6
146	0
147	0
148	3.6
149	3.6
150	0
151	3.6
152	3.6
153	1.0
154	3.6
155	1.0
156	3.6
157	3.6
158	0
159	0
160	0
161	0
162	0
163	3.3
164	0
165	0
166	0
167	0
168	2.8
169	2.5
170	2.5
171	1.8
172	0.8
173	3.6
174	1.8
175	3.6
176	3.6
177	0
178	0
179	0
180	0
181	0
182	0
183	1.8
184	3.6
185	3.5
186	3.6
187	0
188	0
189	3.6
190	3.6
191	3.6
192	3.6
193	0
194	0
195	0
196	0
197	2.7
198	2.7
199	3.6
200	2.1
201	0.4
202	---
203	3.6
204	1.7
205	0
206	3.6
207	3.4
208	3.6
209	3.6
210	0.8
211	3.6
212	3.6
213	3.6
214	1.9
215	0
216	0
IC602	
1	0
2	1.7
3	1.7
4	0.4
5	1.6
6	1.5
7	---
8	0.7
9	0.7
10	0.6
11	0.6
12	0.9
13	0.2
14	0.4
15	0.1
16	---
17	0.4
18	0.2
19	---
20	3.2
21	---
22	1.2
23	0
24	0
25	3.5
26	3.5
27	0.2
28	0.2
29	3.3
30	0.4
31	3.5
32	3.5
33	3.5
34	0
35	1.0
36	0.3
37	0.3
38	3.5
39	---
40	0
41	---
42	0.7
43	1.1
44	0.1
45	0.2
46	0.2
47	1.5
48	---
49	1.6
50	0.3
51	---
52	---
53	---
54	---
55	---
56	3.5
57	3.5
58	1.6
59	1.6
60	---
61	3.5
62	3.5
63	3.5
64	3.5
IC603	
1	-8.1
2	-8.0
3	-0.2
4	0
5	0.4
6	3.5
7	0.1
8	3.5
9	0.1
10	3.5
11	---
12	3.3
13	3.5
14	3.3

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODE PIN NO.	CAMERA
15	0
16	15.0
17	-7.6
18	-7.6
19	0
20	15.0
IC605	
1	0
2	1.9
3	---
4	---
5	1.7
6	4.4
7	1.8
8	1.9
9	1.8
10	3.5
11	0.2
12	0
13	---
14	---
15	---
16	---
17	3.3
18	1.7
19	3.3
20	1.2
21	0.3
22	0.2
23	---
24	0.7
25	0.1
26	0
27	0.4
28	2.7
29	4.4
30	---
31	2.1
32	---
33	2.0
34	2.0
35	0
36	4.4
37	0.3
38	2.1
39	2.1
40	4.4
41	0
42	2.5
43	2.7
44	2.4
45	0.1
46	2.0
47	3.3
48	0.4

MODE PIN NO.	CAMERA
IC701	
1	0.2
2	0.4
3	---
4	0.9
5	0.9
6	0.1
7	0.2
8	0.5
9	0
10	0.5
11	0.5
12	0
13	0.5
14	7.2
IC702	
1	0.1
2	0.1
3	0.5
4	0.7
5	0.9
6	0.1
7	0.1
8	0.5
9	0
10	0.6
11	0.6
12	0
13	0.6
14	7.2
Q301	
E	2.5
C	4.5
B	3.2
Q302	
E	1.5
C	3.2
B	2.2
Q303	
E	1.8
C	0
B	1.2
Q305	
E	3.0
C	4.5
B	3.1
Q306	
E	2.2
C	4.5
B	2.9
Q307	
E	2.6
C	4.5
B	3.1

MODE PIN NO.	CAMERA
Q310	
E	3.4
C	4.5
B	2.2
Q311	
E	2.0
C	4.5
B	2.7
Q617	
E	1.3
C	4.4
B	1.9
Q703	
E	0
C	3.3
B	1.6
TP601	1.6

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (POWER SUPPLY/VIDEO/AUDIO SECTION)

MODE PIN NO.	REC	PLAY
IC1001		
1	0.2	0.1
2	1.7	1.7
3	1.2	1.3
4	1.3	1.2
5	1.0	5.6
6	1.3	1.3
7	1.2	1.2
8	2.1	1.9
9	1.5	1.4
10	0.2	0.2
11	6.9	6.9
12	7.3	7.3
13	3.9	4.0
14	7.0	7.1
15	2.4	2.4
16	6.9	6.9
17	6.6	6.7
18	0.4	0.4
19	0.5	0.5
20	6.5	6.6
21	6.8	6.7
22	1.8	1.8
23	7.1	7.1
24	1.9	1.9
25	6.8	6.6
26	6.5	6.5
27	0.4	0.4
28	0.2	0.2
29	1.6	1.6
30	0.9	1.2
31	1.2	1.2
32	1.2	0.2
33	0.9	0.2
34	1.0	1.5
35	1.0	0.1
36	1.0	0
37	6.9	7.0
38	2.4	2.4
39	0	0
40	0	0
41	---	---
42	0	0
43	---	---
44	1.0	1.0
45	1.6	1.6
46	2.4	2.4
47	1.7	1.6
48	0	2.4
IC3001		
1	1.7	2.6
2	---	---
3	3.7	0.1
4	0.1	0.1
5	2.1	1.9
6	4.5	4.5
7	2.0	2.3
8	0	0
9	2.1	0.3
10	2.1	2.1
11	0.3	1.1
12	0	2.1
13	1.5	2.2
14	2.0	2.2
15	2.7	1.6
16	0.2	2.2
17	2.2	2.1
18	2.2	2.1
19	2.5	3.0
20	2.1	1.5
21	2.2	2.7
22	2.7	2.5
23	3.4	2.0
24	2.7	2.9
25	2.5	2.8
26	0	0
27	3.2	3.6
28	4.4	4.4
29	2.3	2.3
30	0	2.1
31	2.1	2.0
32	2.9	3.0
33	0	0
34	2.4	2.9
35	4.5	4.5
36	2.5	2.5
37	2.5	2.5
38	0.3	0.4
39	2.8	2.7
40	0.2	2.3
41	1.3	1.3
42	0.8	2.2
43	3.0	3.0
44	0.9	2.8
45	0.2	0.2
46	---	---
47	---	---
48	---	---
49	1.8	1.9
50	2.0	2.0
51	2.1	2.0
52	4.5	4.5
53	2.2	2.2
54	0	0
55	2.7	2.7
56	1.2	3.6
57	4.5	4.1
58	3.0	3.0
59	0	0
60	4.3	2.7
61	0.5	0.5
62	0	0.4
63	4.5	4.5
64	4.5	4.5
65	0.3	1.9
66	---	---
67	0.6	0
68	3.6	3.6
69	2.1	3.6
70	4.5	4.5
71	4.5	4.5
72	1.8	4.5
73	2.1	2.8
74	0	0
75	0.6	0.2
76	2.3	3.7
77	0.3	0.1
78	0.1	0.1
79	2.5	2.9
80	2.1	2.8
IC3002		
1	1.0	2.1
2	0	0
3	4.5	4.5
4	1.9	2.8
5	0	0
6	1.8	2.6
7	1.6	1.6
8	2.8	2.8
9	4.5	4.5
10	0	0
11	2.5	2.8
12	2.4	2.5
13	1.8	2.9
14	0	0
15	2.5	2.7
16	4.5	4.5
17	0	0
18	2.0	2.2
19	2.3	2.3
20	0.9	2.0
IC3003		
1	1.1	1.1
2	3.0	3.0
3	2.4	1.1
4	2.6	2.0
5	2.6	1.3
6	0	0.7
7	0	0
8	0	0
9	0.9	0.9
10	0.9	0.9
11	0.9	0.9
12	2.4	2.2
13	2.5	2.8
14	2.4	2.2
15	3.0	3.0
16	4.5	4.5
IC4001		
1	2.2	2.3
2	2.3	2.3
3	---	---
4	2.3	2.3
5	0.6	0
6	0.2	1.3
7	1.7	1.7
8	0.1	0.1
9	2.3	2.3
10	4.0	3.7
11	3.7	0
12	2.3	2.3
13	0	4.5
14	2.3	2.3
15	0.1	0
16	0.1	1.4
17	1.2	0
18	2.9	2.7
19	0	0
20	0	0
21	---	---
22	0	0
23	0	0
24	1.7	1.7
25	0.4	1.1
26	1.6	1.7
27	4.5	4.5
28	1.7	1.7
29	4.5	4.5
30	1.7	1.7
31	2.3	2.3
32	2.3	2.3
Q1001		
E	7.2	7.1
C	7.1	7.0
B	0.1	0.1
Q1002		
E	0	0
C	0	0
B	-0.6	-0.6
Q1003		
E	2.3	2.3
C	0	0
B	1.6	1.6
Q1005		
E	7.2	7.1
C	4.5	4.5
B	6.7	6.6
Q1006		
E	7.2	0
C	3.6	3.6
B	6.8	0
A	0	0
Q1007		
E	0	0.1
C	0	0.1
B	7.0	6.9
Q1008		
E	7.2	7.1
C	4.6	4.6
B	6.6	6.6
A	0	0
Q1009		
E	6.1	0.1
C	1.6	0.1
B	6.8	6.7
A	0	0
Q1010		
E	5.9	5.6
C	0	0
B	6.1	5.9
Q1011		
E1	1.9	1.9
C1	6.6	6.5
B1	2.4	1.3
E2	1.9	1.4
C2	0.2	4.8
B2	0.1	2.5
Q1012		
E	7.2	7.1
C	4.8	4.8
B	6.6	6.5
Q1013		
E	7.0	7.0
C	4.8	4.8
B	4.4	4.4
Q1014		
E	7.2	7.0
C	7.1	7.0
B	1.5	6.3
Q1015		
E	3.9	3.8
C	6.5	6.3
B	4.5	4.5
Q1020		
E	4.6	4.6
C	0	2.0
B	4.6	4.6
Q1021		
E	0	0
C	4.6	4.4
B	0.1	0.9
Q1022		
E	7.0	7.0
C	4.9	4.9
B	7.5	7.2
Q1023		
E1	1.9	1.9
C1	7.2	7.3
B1	2.4	2.4
E2	1.9	1.9
C2	4..9	4.0
B2	2.7	2.7
Q1101		
E	7.2	7.1
C	1.7	1.5
B	7.2	7.1
Q1102		
E	0	0
C	7.8	7.1
B	-0.1	0
Q1103		
E	7.2	7.1
C	7.2	7.1
B	7.2	0.1
Q1104		
E	0	0
C	0	0.1
B	0	0
Q1105		
E	7.2	7.1
C	0	0.7
B	7.2	0.3
Q1106		
E	0	0
C	0.2	0
B	0.1	0
Q3003		
E	4.1	2.6
C	0	1.6
B	4.3	2.0
Q3004		
E	0	1.9
C	3.4	3.8
B	3.3	2.6
Q3005		
E	0	3.2
C	4.5	4.5
B	3.4	3.8
Q3021		
E	1.2	1.2
C	4.8	4.8
B	1.7	1.7
Q3022		
E	1.7	0.1
C	4.8	4.8
B	2.3	0.4
Q3027		
E	1.7	1.8
C	4.8	4.8
B	2.3	2.3
Q3028		
E	1.9	1.9
C	4.5	4.5
B	2.5	2.5
Q3029		
E	1.9	1.9
C	4.5	4.6
B	2.5	2.5
Q3030		
E	4.5	2.9
C	1.5	2.7
B	4.7	4.3
Q3031		
E	0	0
C	4.5	4.3
B	0.2	0.3
Q4002		
E1	5.3	3.5
C1	4.4	3.6
B1	4.6	3.8
E2	4.5	4.0
C2	1.4	4.5
B2	4.6	4.5
Q4003		
E	0.2	0
C	0	0
B	0.5	0.8
Q4004		
E	0.2	0
C	0	0
B	-0.5	0.8
Q4007		
E	0	0
C	-0.2	-0.5
B	0.1	1.1
Q4008		
E	0	0
C	0	0
B	0	0
Q4009		
E	0	0.4
C	0.2	4.3
B	0.2	0.1
Q4010		
E	4.6	4.5
C	0	0
B	4.3	5.0
Q4011		
E	0.2	1.4
C	4.5	4.5
B	0.2	1.9
TP1001	4.6	4.6
TP1002	4.6	4.6
TP1003	15.0	15.0
TP1004	8.1	8.2
TP1005	-8.1	-8.1
TP1006	3.6	3.6
TP1007	4.6	4.6
TP3001	2.7	2.7
TP3002	2.6	2.5
TP3003	0.4	2.0
TP3004	2.9	3.9
TP3005	3.2	3.6
TP3006	2.6	0.4
TP4001	1.4	1.4
TP4002	0	0
TP4003	0	0.1
TP4004	0.1	1.3

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE PIN NO.	REC	PLAY	STOP
IC2001			
1	2.2	2.0	2.0
2	0.6	0.6	0.1
3	0.6	0.7	0.1
4	2.9	3.0	2.9
5	0	0	0
6	0	0	0
7	0.1	0.1	4.6
8	2.3	2.3	2.3
9	2.3	2.3	2.3
10	2.2	2.2	2.3
11	2.3	2.3	2.3
12	2.3	2.3	2.3
13	1.8	2.3	2.3
14	7.1	7.0	7.3
15	1.6	1.9	0
16	2.1	2.0	0
17	1.6	1.9	0
18	0.4	0.9	0.7
19	0.6	0.5	0.7
20	0.4	0.7	0.1
21	6.8	6.6	6.8
22	6.7	6.5	6.8
23	6.7	6.6	6.8
24	0.6	0.6	0.1
25	0.4	0.6	0.1
26	0.4	1.3	0
27	1.6	1.1	4.2
28	1.7	7.0	4.2
29	1.6	2.0	4.3
30	0.7	2.0	0
31	0.7	0.9	0
32	0.7	0.9	0
33	1.6	1.8	6.5
34	2.2	2.2	2.2
35	2.2	0.7	2.2
36	1.8	0.8	1.7
37	1.7	0.8	1.7
38	1.2	1.2	1.2
39	1.2	1.2	1.2
40	0.1	0.7	2.3
41	0	0	0
42	0	0	0
43	0	0.1	0
44	2.4	0.6	4.2
45	0.7	0.7	0.1
46	0.6	0.6	0
47	0.3	0.6	0.2
48	2.2	2.1	2.3
49	6.0	5.4	7.2
50	2.3	2.3	2.3
51	0	0	0
52	4.5	4.5	4.5
53	2.2	1.6	0.7
54	---	---	---
55	0.6	0.7	0.7
56	0	0	0
57	2.3	2.3	2.3
58	2.3	2.3	2.3
59	2.3	1.3	1.9
60	2.3	2.3	2.3
61	2.1	2.2	2.3
62	---	---	---
63	---	---	---
64	---	---	---
IC2002			
1	0.7	0.9	0
2	1.4	4.9	3.4
3	0.7	0.9	0.3
4	1.4	1.1	3.4
5	0.7	0.9	0
6	1.3	4.2	3.4
7	1.6	1.1	6.4
8	0.7	1.1	0
9	0.5	0.8	0.1
10	0.7	0.9	0
11	0.5	0.4	0.1
12	0.7	0.9	0
13	0.4	0.4	0.1
14	0	0	0
IC2003			
1	0	1.9	0
2	6.8	2.5	6.8
3	0	4.6	0.3
4	6.8	8.9	6.8
5	0	2.0	0
6	6.8	9.2	6.8
7	7.2	7.0	7.2
8	0	1.9	0
9	0.7	0.4	0.7
10	0	1.9	0
11	0.7	0.9	0.7
12	0	2.0	0
13	0.7	0.4	0.7
14	0	0	0
IC6001			
1	2.7	2.7	3.7
2	4.5	2.2	3.3
3	4.1	4.6	0.3
4	0.3	0.3	0.3
5	3.2	3.3	3.3
6	4.5	4.5	4.5
7	0.1	0.1	0.1
8	0.1	0.1	0.1
9	3.7	3.7	0.2
10	3.8	0.1	0
11	3.5	4.6	3.5
12	1.8	1.5	1.2
13	0.1	0.1	0.1
14	4.5	4.5	4.5
15	4.2	4.5	3.7
16	4.6	4.5	4.6
17	4.5	4.4	4.5
18	0.1	0.1	0
19	0.1	0.1	4.6
20	2.5	0.1	4.5
21	0.1	0.1	2.3
22	0.1	0.1	0.1
23	4.6	2.3	4.6
24	0.1	0.1	0.1
25	4.4	4.5	4.6
26	4.6	0	0.1
27	4.6	0	0
28	---	---	---
29	0	4.5	4.6
30	0.3	0.3	0.2
31	---	---	---
32	4.6	0	4.6
33	2.2	2.0	2.3
34	2.8	0	3.7
35	---	---	---
36	4.6	4.5	4.6
37	2.3	2.3	1.5
38	1.6	2.3	2.3
39	0	0	0
40	0.3	0.8	0.8
41	---	---	---
42	4.6	4.5	4.6
43	4.1	0	3.9
44	4.6	0	1.6
45	0	0	1.5
46	---	---	---
47	4.6	4.5	4.6
48	0	0	0
49	4.6	0	0
50	2.1	0	3.0
51	4.6	4.5	4.6
52	2.3	0	2.2
53	2.3	2.3	2.3
54	---	---	---
55	0	0	0
56	0.1	0	4.6
57	0.1	1.4	0
58	0.1	0	0.1
59	0	0	0
60	0.1	0	0.1
61	0.3	1.4	0.1
62	3.2	4.1	3.5
63	0.1	0.1	0.3
64	0.3	0.3	4.2
65	2.2	2.2	0.4
66	0.7	0.78	0.4
67	2.3	2.3	2.3
68	2.3	2.3	2.3
69	2.3	1.4	2.3
70	2.1	2.3	2.3
71	0	0	0
72	1.0	1.1	2.3
73	4.6	4.6	4.6
74	2.7	2.2	2.3
75	2.0	2.2	2.3
76	2.3	3.8	2.3
77	0.2	0.1	0.1
78	4.0	4.4	4.4
79	2.1	2.1	2.4
80	2.4	3.9	0.4
81	3.9	4.5	4.3
82	3.8	0	4.3
83	0.2	0.1	0.1
84	3.9	4.0	4.4
85	3.7	4.0	4.1
86	0.3	3.5	3.1
87	6.2	1.1	0.1
88	0.1	0.1	0.1
89	0.6	4.5	0.7
90	2.4	1.6	4.0
91	0.3	4.6	0.1
92	0.1	4.6	4.6
93	0.4	0.1	0.5
94	4.5	0.1	4.6
95	4.5	4.5	4.6
96	4.5	0.1	4.6
97	4.6	0.1	4.6
98	2.3	2.3	4.6
99	4.6	0.1	0.1
100	0.3	1.4	0.2
IC6002			
1	4.4	4.4	4.4
2	4.5	4.5	4.2
3	---	---	---
4	0	0	4.4
IC6005			
1	0.9	0.8	0.2
2	1.9	1.0	0.5
3	1.0	0.9	0.4
4	0	0	0
5	0.3	0.3	0.2
6	4.5	4.5	4.5
7	7.0	1.2	3.8
8	4.3	4.2	4.2
IC6006			
1	0	0	0
2	6.5	6.5	6.6
3	4.5	4.5	4.5
IC6007			
1	0	0	0
2	0	0	0
3	0.6	2.0	0.5
4	6.5	6.5	6.6
5	6.5	6.5	6.6
6	0.1	0.1	0.1
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0.1	0
12	4.5	4.6	4.5
13	0	0	0
14	0.4	2.0	0.6
15	0	0	0
16	0	0	0
IC6203			
1	1.2	0	1.2
2	0	0	0
3	0	0	0
4	2.6	0	4.2
Q6004			
E	4.6	4.6	4.5
C	0.1	0.1	0.1
B	4.6	4.5	4.5
Q6005			
E	4.7	0	1.4
C	4.5	4.5	4.5
B	4.6	0	0
Q6006			
E	4.6	4.6	4.6
C	4.6	4.6	4.6
B	4.0	4.0	4.0
Q6008			
E	4.5	0	1.2
C	4.5	0.1	4.5
B	4.6	0	0
Q6009			
E	4.6	4.6	4.6
C	0.3	5.0	9.9
B	2.3	2.0	2.0
Q6010			
E	0	0	0
C	0	0.1	0.1
B	4.5	4.5	4.5
Q6011			
E	4.6	4.6	4.6
C	4.6	0.3	0
B	4.0	4.5	4.6
Q6012			
G	0	0	0
S	0	0	0
D	4.1	4.4	4.4
Q6013			
E	0.3	0.3	0.2
C	7.2	7.1	7.2
B	0.3	0.3	0.1
Q6018			
E	1.7	2.1	2.2
C	4.2	3.7	3.6
B	0.1	0.1	0.1
Q6021			
E	6.8	6.8	6.8
C	6.8	6.9	6.6
B	6.1	6.2	5.9
Q6022			
E	0	0	0
C	0	0	0
B	0.6	0.6	0.6
TP6001	0.5	0.5	0.3
TP6003	0.1	0.1	0.1
TP6004	3.8	---	4.4
TP6006	0.9	3.8	1.2
TP6007	3.3	---	4.1
TP6010	4.5	4.6	4.5
TP6011	4.2	4.4	2.5
TP6012	4.1	4.5	4.5
TP6014	4.4	4.4	2.5
TP6015	4.5	4.6	4.6
TP6020	4.1	4.2	4.2
TP6021	1.0	3.4	3.7
TP6022	1.0	3.7	0
TP6023	0.1		0.1
TP6201	2.3	2.3	0.1
TP6202	2.3	2.3	2.3
TP6205	3.2	2.3	3.2
TP6206	3.4	2.3	3.2
TP6207	2.3	2.3	2.3
TP6208	0.8	0.5	0.7
TP6210	0.5	2.2	0.5
TP6212	1.6	1.9	0.1
TP6215	0.1	0	4.6
TP6216	4.6	0	0
TP6220	0.7	0.7	0

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

EVF C.B.A. (A,C,D)

MODE PIN NO.	CAMERA
IC901	
1	2.0
2	4.5
3	2.0
4	0
5	2.0
6	0.6
7	0
8	4.2
9	3.7
10	0
11	1.8
12	4.4
13	2.6
14	1.9
15	1.8
16	2.2
Q901	
E	0
C	5.9
B	0.5
Q902	
E	2.9
C	-29.6
B	2.3
TP901	3.7
TP902	4.2

COLOR EVF A/B C.B.A. (B)

MODE PIN NO.	CAMERA
IC901	
1	1.7
2	1.7
3	1.6
4	---
5	---
6	---
7	---
8	1.3
9	---
10	6.2
11	6.2
12	6.2
13	6.2
14	6.2
15	0
16	6.2
17	0
18	0
19	---
20	0.1
21	---
22	1.6
23	---
24	0
25	3.2
26	0
27	1.4
28	0
29	0.1
30	---
31	1.6
32	---
33	---
34	0
35	---
36	0.4
37	0.6
38	2.7
39	2.7
40	---
41	---
42	---
43	0
44	3.2
45	0
46	---
47	2.1
48	1.9
Q901	
S	0
D	2.7
G	1.2

MODE PIN NO.	CAMERA
Q902	
E	0
C	3.9
B	0.7
Q903	
E	3.3
C	4.6
B	3.9
Q904	
E	4.1
C1	4.6
B1	4.7
C2	16.0
B2	12.3
Q905	
E	15.0
C	12.3
B	14.7
TP901	6.2
TP902	6.2
TP903	6.2
TP904	0.4
TP905	3.3
TP906	12.3

LCD C.B.A.

MODE PIN NO.	CAMERA
IC1201	
1	0.8
2	0.1
3	4.5
4	1.0
5	0.4
6	0
7	0.5
8	0.1
IC9001	
1	1.7
2	1.7
3	1.7
4	---
5	---
6	---
7	---
8	0.9
9	3.9
10	2.6
11	2.6
12	2.3
13	2.6
14	2.6
15	2.6
16	2.6
17	0.1
18	7.5
19	0.1
20	0.1
21	0.3
22	1.6
23	1.6
24	1.6
25	3.3
26	1.8
27	0.7
28	0.1
29	0.1
30	0.1
31	0.6
32	0.5
33	0.5
34	0.5
35	0.1
36	0.4
37	0.9
38	2.9
39	2.9
40	0.1
41	3.3
42	0.5
43	---
44	3.2
45	0.1

MODE PIN NO.	CAMERA
46	2.3
47	2.0
48	1.9
IC9002	
1	0
2	-14.8
3	6.1
4	6.1
5	12.2
Q1202	
E	0.1
C	0.1
B	0.7
Q1203	
E	3.6
C	3.6
B	0.1
Q1204	
E	3.6
C	3.6
B	0.1
Q1205	
E	3.6
C	0.1
B	3.6
Q1206	
E	0.1
C	4.2
B	0.1
Q1207	
E	3.6
C	-15.4
B	3.7
Q1208	
E	15.0
C	15.5
B	15.5
Q1209	
E	15.0
C	15.5
B	15.5
Q1210	
E	0
C	0
B	0
Q1211	
E	3.7
C	3.8
B	4.3
Q1212	
E	0.1
C	4.8
B	0.1

MODE PIN NO.	CAMERA
Q1213	
E	0.1
C	4.3
B	0.1
Q1214	
G	3.3
S	0
D	0
Q1215	
E	0
C	3.1
B	0
Q1216	
E	0
C	0
B	3.0
Q1217	
E	0
C	7.1
B	0.4
Q1218	
E	12.6
C	12.2
B	12.8
Q1219	
E1	12.2
C1	5.0
B1	5.2
E2	5.0
C2	0
B2	4.0
Q1220	
E	-14.8
C	-15.8
B	-15.0
Q1221	
E	7.6
C	12.6
B	7.5
Q1222	
E	0.1
C	7.6
B	0
Q9001	
E	0.1
C	5.2
B	0.2
Q9002	
E	0.1
C	5.2
B	0.2
Q9101	
E	0
C	0
B	1.0

MODE PIN NO.	CAMERA
Q9102	
E	0
C	0
B	1.8
TP1201	3.3
TP1202	4.5
TP1203	12.2
TP1204	7.6
TP1205	0.1
TP1206	14.8
TP9001	2.6
TP9002	2.6
TP9003	2.6
TP9004	---
TP9005	0.1
TP9006	0.1
TP9007	0.3

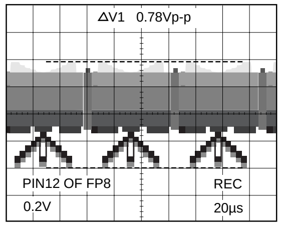
CCD C.B.A.

MODE PIN NO.	CAMERA
IC601	
1	-7.5
2	-7.5
3	0
4	0
5	---
6	0
7	0
8	14.9
9	0
10	5.8
11	0
12	0.3
13	2.4
14	1.9
Q601	
E	2.4
C	14.9
B	0

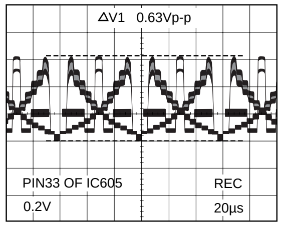
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-L750	A
-----	B
PV-L780	C
PV-L850	D

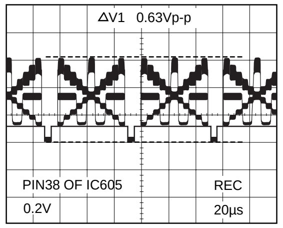
MAIN C.B.A.



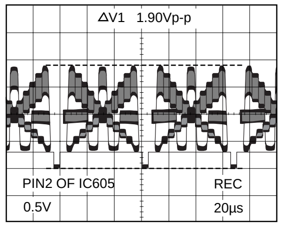
WF1



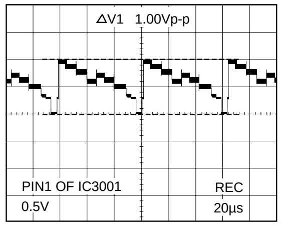
WF2



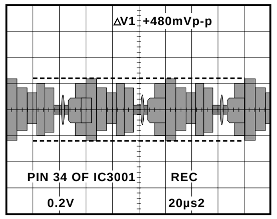
WF3



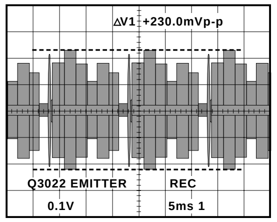
WF4



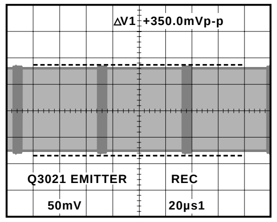
WF5



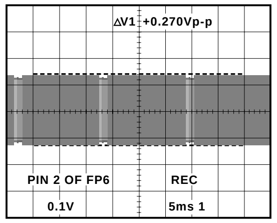
WF6



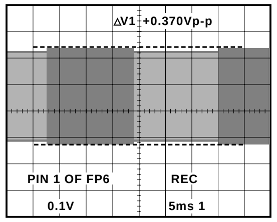
WF7



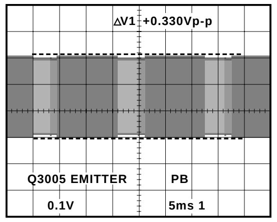
WF8



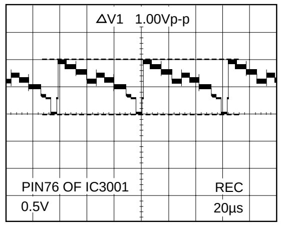
WF9



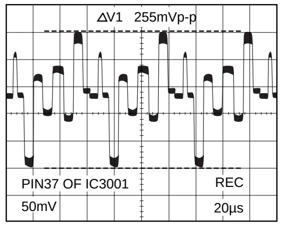
WF10



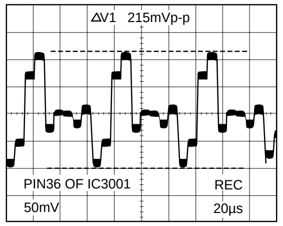
WF11



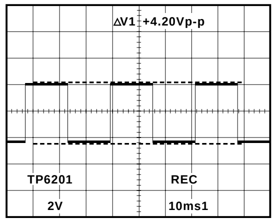
WF12



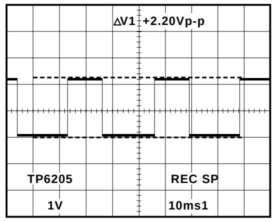
WF13



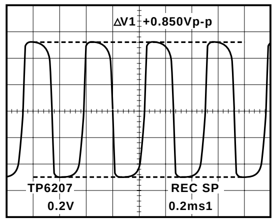
WF14



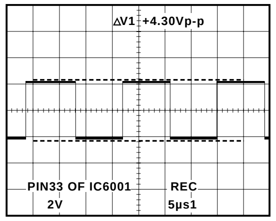
WF15



WF16

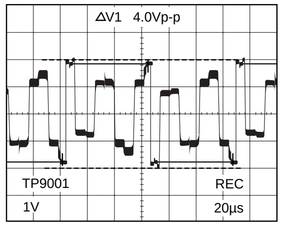


WF17

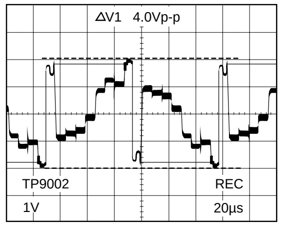


WF18

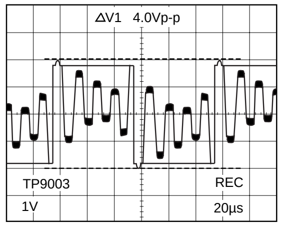
LCD C.B.A.



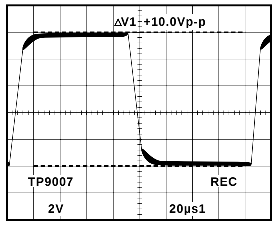
WF19



WF20

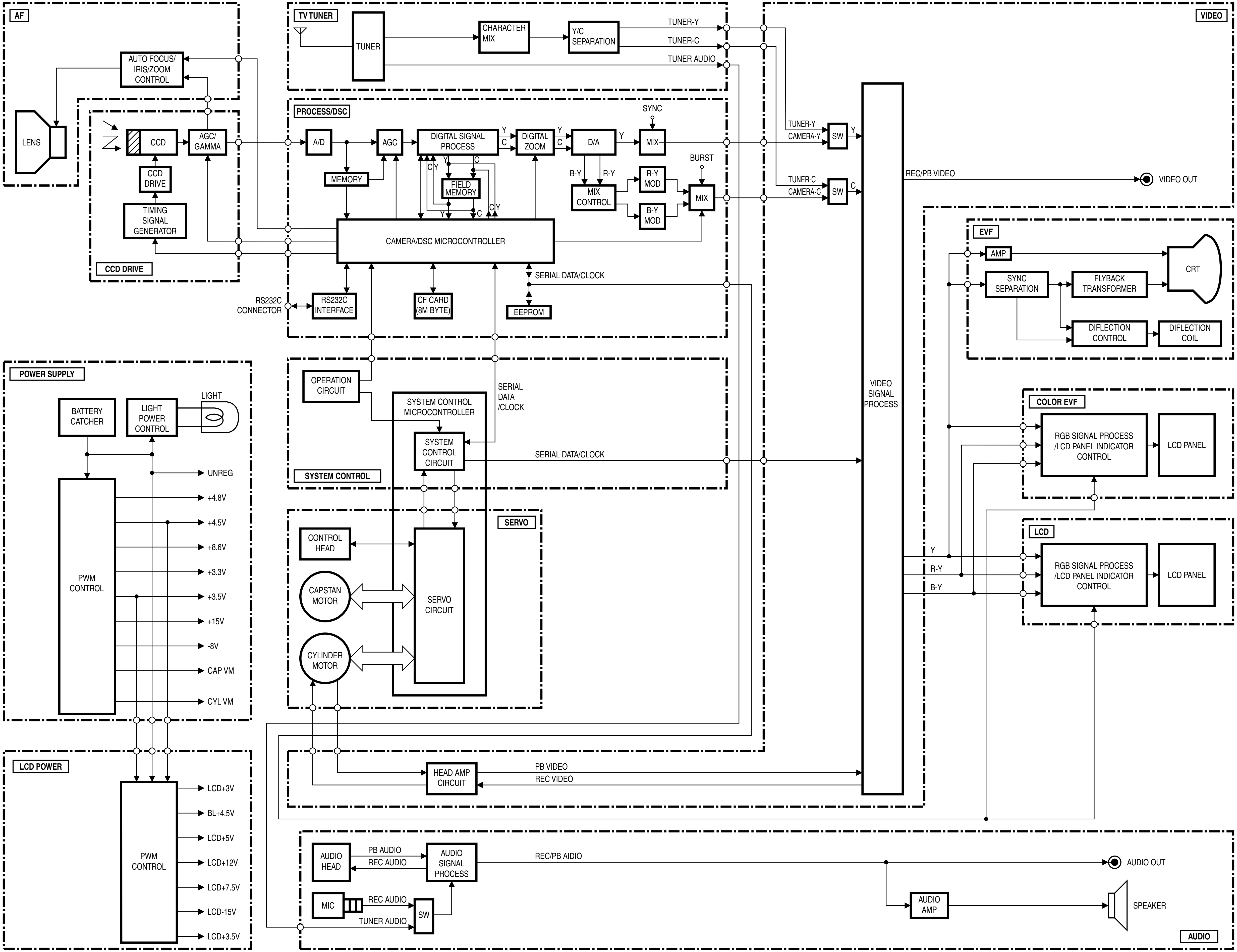


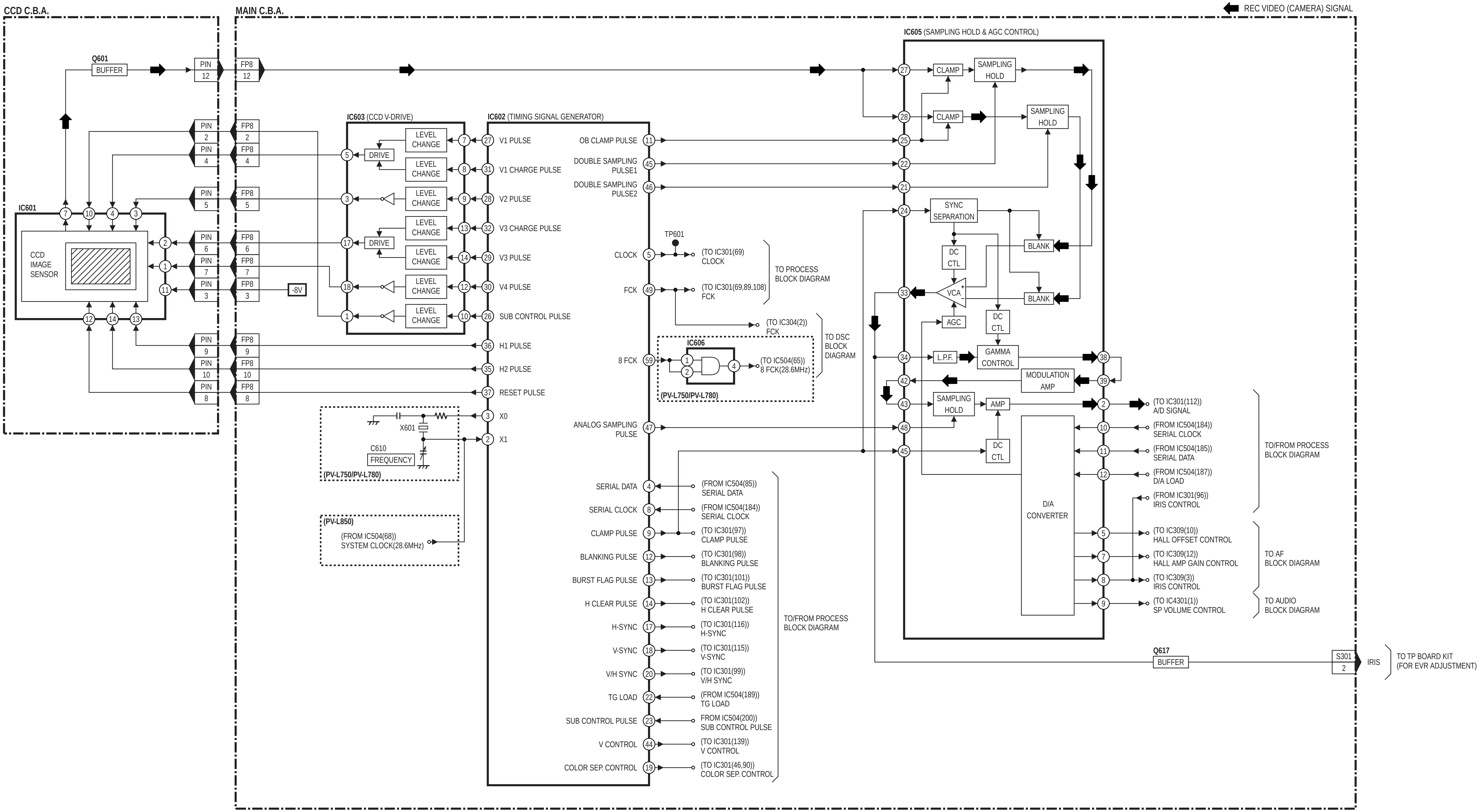
WF21

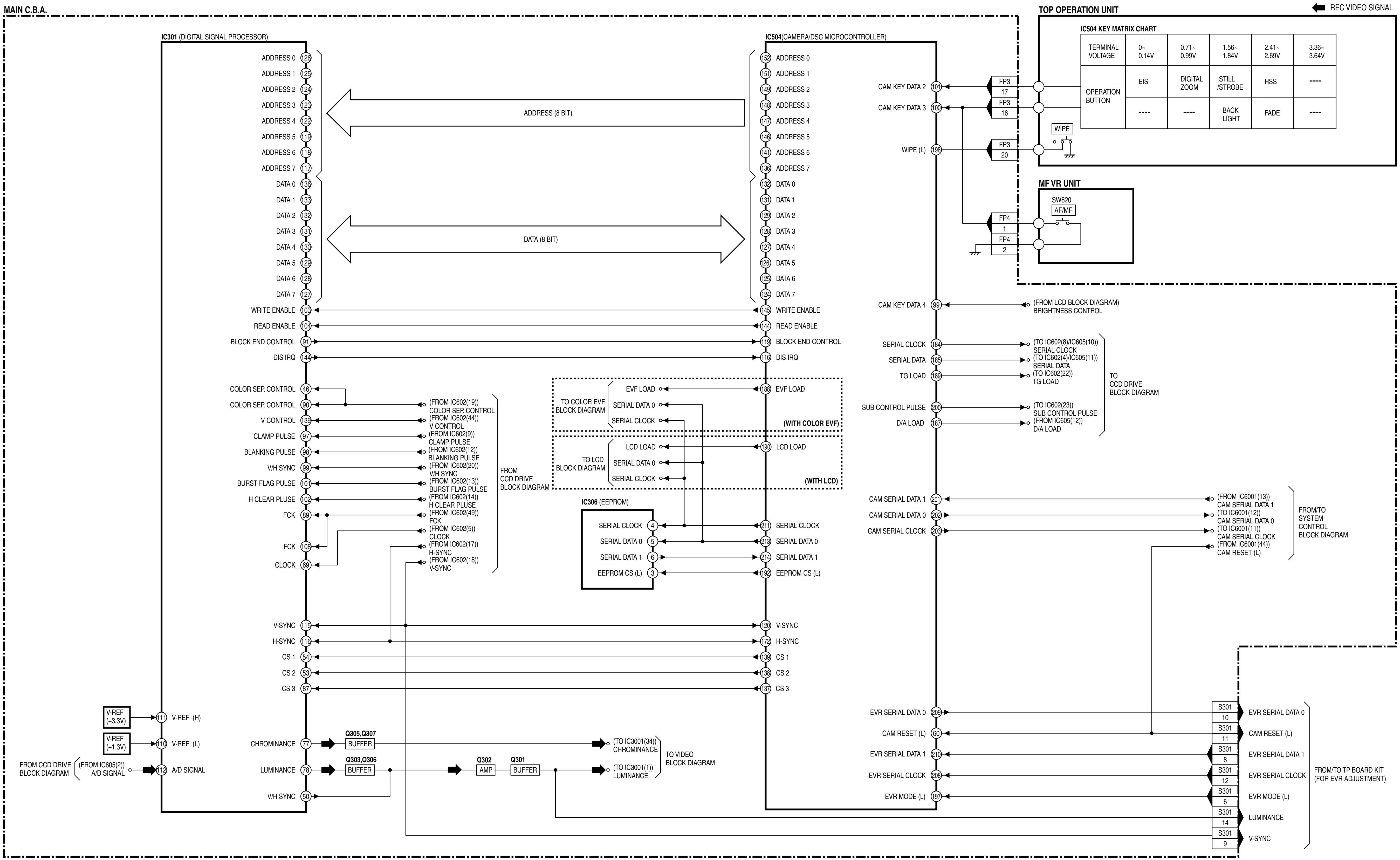


WF22

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

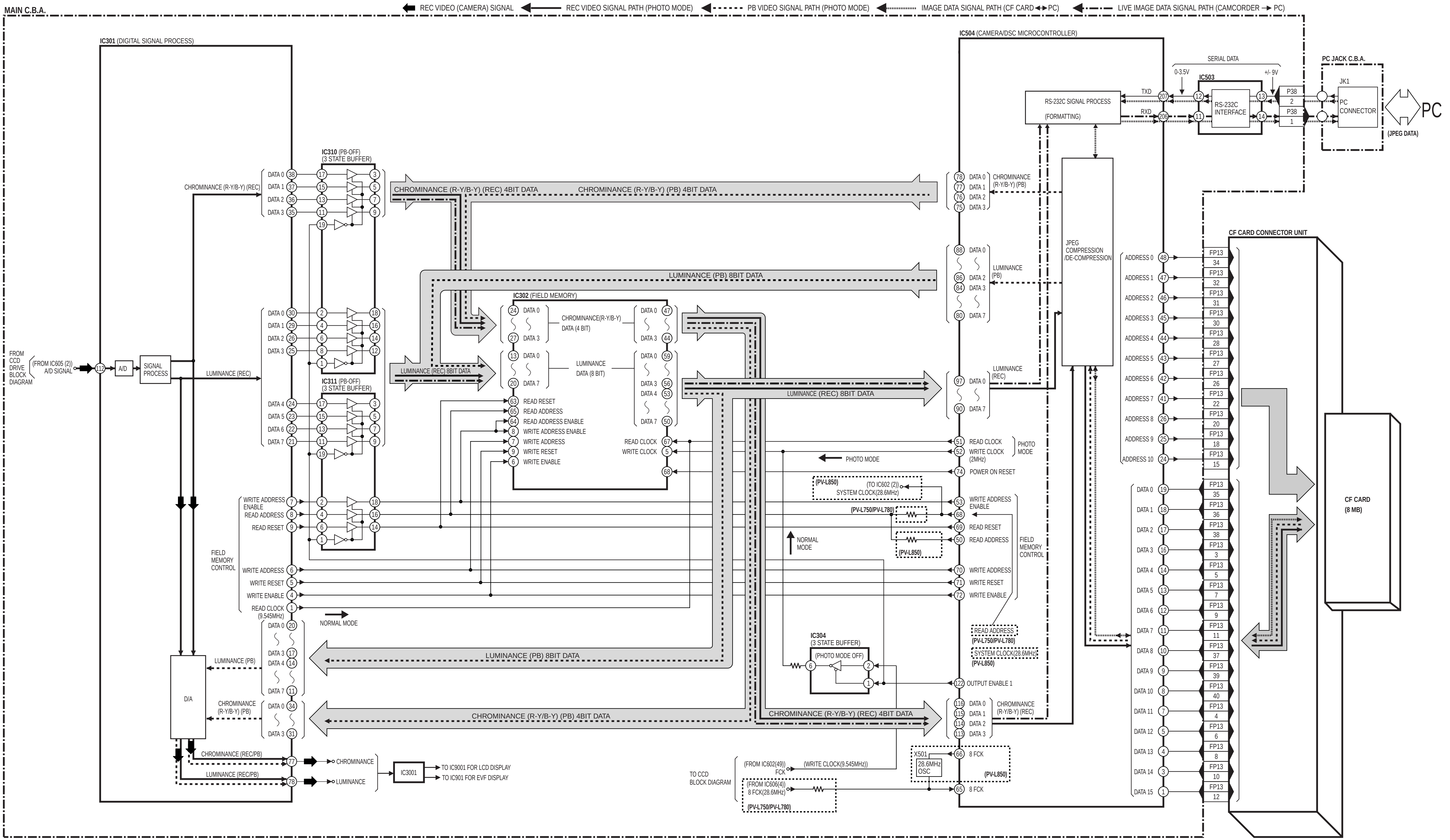

AF
AUTO FOCUS/IRIS/ZOOM CONTROL
LENS
CCD
CCD DRIVE
TIMING SIGNAL GENERATOR
AGC/GAMMA
CCD DRIVE
TV TUNER
TUNER
CHARACTER MIX
Y/C SEPARATION
TUNER-Y
TUNER-C
TUNER AUDIO
PROCESS/DSC
A/D
AGC
MEMORY
DIGITAL SIGNAL PROCESS
FIELD MEMORY
DIGITAL ZOOM
D/A
SYNC
MIX
B-Y
R-Y
MIX CONTROL
R-Y MOD
B-Y MOD
BURST
MIX
Y
C
CAMERA/DSC MICROCONTROLLER
RS232C CONNECTOR
RS232C INTERFACE
CF CARD (8M BYTE)
EEPROM
SERIAL DATA/CLOCK
VIDEO
TUNER-Y
CAMERA-Y
SW
TUNER-C
CAMERA-C
SW
VIDEO SIGNAL PROCESS
REC/PB VIDEO
VIDEO OUT
EVF
AMP
CRT
SYNC SEPARATION
FLYBACK TRANSFORMER
DIFLECTION CONTROL
DIFLECTION COIL
COLOR EVF
RGB SIGNAL PROCESS /LCD PANEL INDICATOR CONTROL
LCD PANEL
LCD
RGB SIGNAL PROCESS /LCD PANEL INDICATOR CONTROL
LCD PANEL
Y
R-Y
B-Y
POWER SUPPLY
BATTERY CATCHER
LIGHT POWER CONTROL
LIGHT
PWM CONTROL
UNREG
+4.8V
+4.5V
+8.6V
+3.3V
+3.5V
+15V
-8V
CAP VM
CYL VM
SYSTEM CONTROL
OPERATION CIRCUIT
SYSTEM CONTROL MICROCONTROLLER
SYSTEM CONTROL CIRCUIT
SERIAL DATA /CLOCK
SERIAL DATA/CLOCK
SERVO
CONTROL HEAD
CAPSTAN MOTOR
CYLINDER MOTOR
SERVO CIRCUIT
LCD POWER
PWM CONTROL
LCD+3V
BL+4.5V
LCD+5V
LCD+12V
LCD+7.5V
LCD-15V
LCD+3.5V
HEAD AMP CIRCUIT
PB VIDEO
REC VIDEO
AUDIO
AUDIO HEAD
PB AUDIO
REC AUDIO
AUDIO SIGNAL PROCESS
REC/PB AIDIO
AUDIO OUT
MIC
REC AUDIO
TUNER AUDIO
SW
AUDIO AMP
SPEAKER

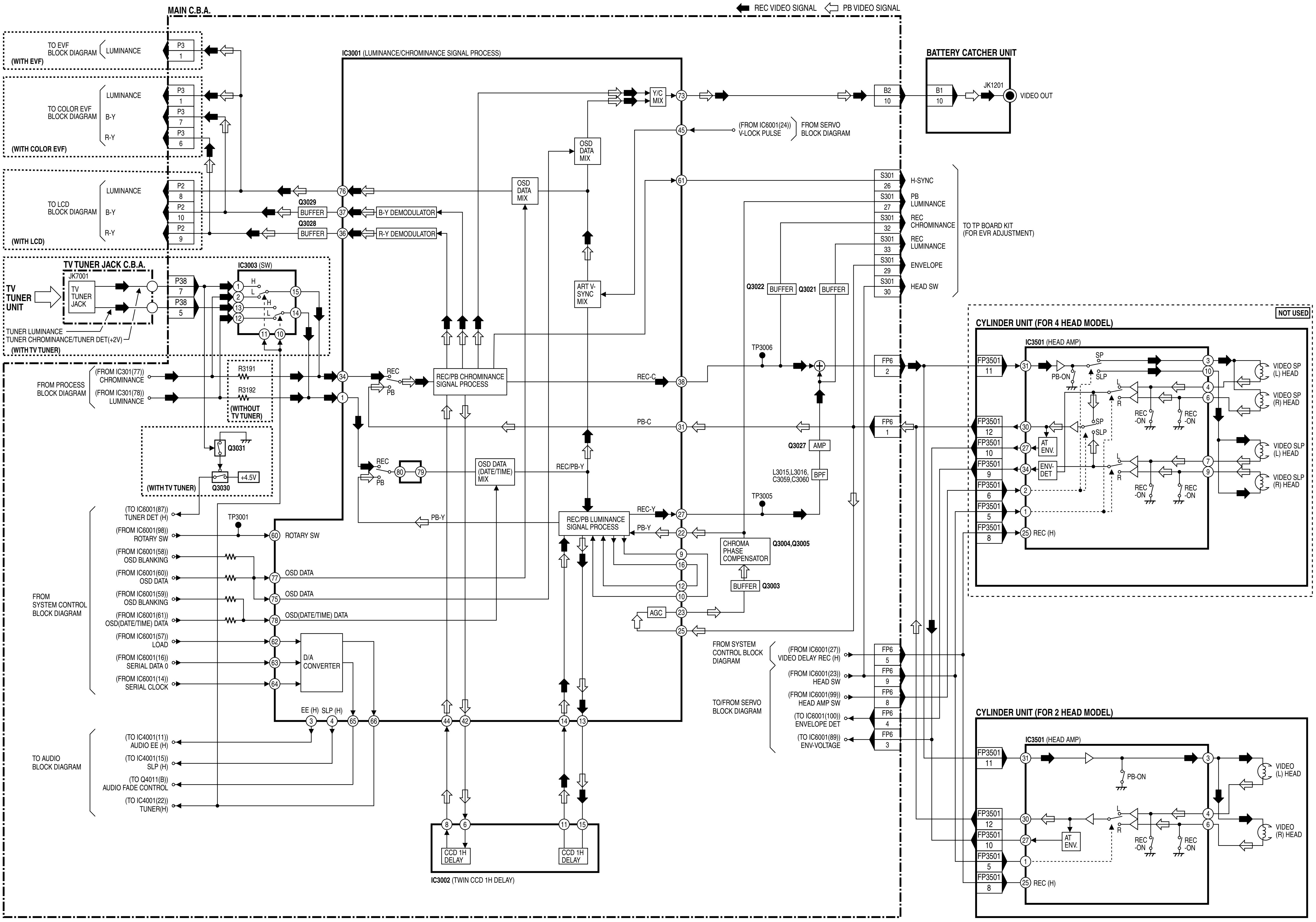

CCD C.B.A.
MAIN C.B.A.
REC VIDEO (CAMERA) SIGNAL
Q601
BUFFER
IC601
CCD IMAGE SENSOR
7
10
4
3
2
1
11
12
14
13
PIN 12
PIN 2
PIN 4
PIN 5
PIN 6
PIN 7
PIN 3
PIN 9
PIN 10
PIN 8
FP8 12
FP8 2
FP8 4
FP8 5
FP8 6
FP8 7
FP8 3
FP8 9
FP8 10
FP8 8
-8V
IC603 (CCD V-DRIVE)
LEVEL CHANGE
DRIVE
IC602 (TIMING SIGNAL GENERATOR)
V1 PULSE
V1 CHARGE PULSE
V2 PULSE
V3 CHARGE PULSE
V3 PULSE
V4 PULSE
SUB CONTROL PULSE
H1 PULSE
H2 PULSE
RESET PULSE
X0
X1
X601
C610
FREQUENCY
(PV-L750/PV-L780)
(PV-L850)
(FROM IC504(68)) SYSTEM CLOCK(28.6MHz)
OB CLAMP PULSE
DOUBLE SAMPLING PULSE1
DOUBLE SAMPLING PULSE2
TP601
CLOCK
(TO IC301(69) CLOCK
FCK
(TO IC301(69,89,108) FCK
TO PROCESS BLOCK DIAGRAM
(TO IC304(2)) FCK
TO DSC BLOCK DIAGRAM
8 FCK
IC606
(TO IC504(65)) 8 FCK(28.6MHz)
(PV-L750/PV-L780)
ANALOG SAMPLING PULSE
SERIAL DATA
(FROM IC504(85)) SERIAL DATA
SERIAL CLOCK
(FROM IC504(184)) SERIAL CLOCK
CLAMP PULSE
(TO IC301(97)) CLAMP PULSE
BLANKING PULSE
(TO IC301(98)) BLANKING PULSE
BURST FLAG PULSE
(TO IC301(101)) BURST FLAG PULSE
H CLEAR PULSE
(TO IC301(102)) H CLEAR PULSE
H-SYNC
(TO IC301(116)) H-SYNC
V-SYNC
(TO IC301(115)) V-SYNC
V/H SYNC
(TO IC301(99)) V/H SYNC
TG LOAD
(FROM IC504(189)) TG LOAD
SUB CONTROL PULSE
FROM IC504(200)) SUB CONTROL PULSE
V CONTROL
(TO IC301(139)) V CONTROL
COLOR SEP. CONTROL
(TO IC301(46,90)) COLOR SEP. CONTROL
TO/FROM PROCESS BLOCK DIAGRAM
IC605 (SAMPLING HOLD & AGC CONTROL)
CLAMP
SAMPLING HOLD
SYNC SEPARATION
BLANK
DC CTL
VCA
AGC
L.P.F.
GAMMA CONTROL
MODULATION AMP
AMP
D/A CONVERTER
(TO IC301(112)) A/D SIGNAL
(FROM IC504(184)) SERIAL CLOCK
(FROM IC504(185)) SERIAL DATA
(FROM IC504(187)) D/A LOAD
(FROM IC301(96)) IRIS CONTROL
TO/FROM PROCESS BLOCK DIAGRAM
(TO IC309(10)) HALL OFFSET CONTROL
(TO IC309(12)) HALL AMP GAIN CONTROL
(TO IC309(3)) IRIS CONTROL
TO AF BLOCK DIAGRAM
(TO IC4301(1)) SP VOLUME CONTROL
TO AUDIO BLOCK DIAGRAM
Q617
BUFFER
S301 2
IRIS
TO TP BOARD KIT (FOR EVR ADJUSTMENT)

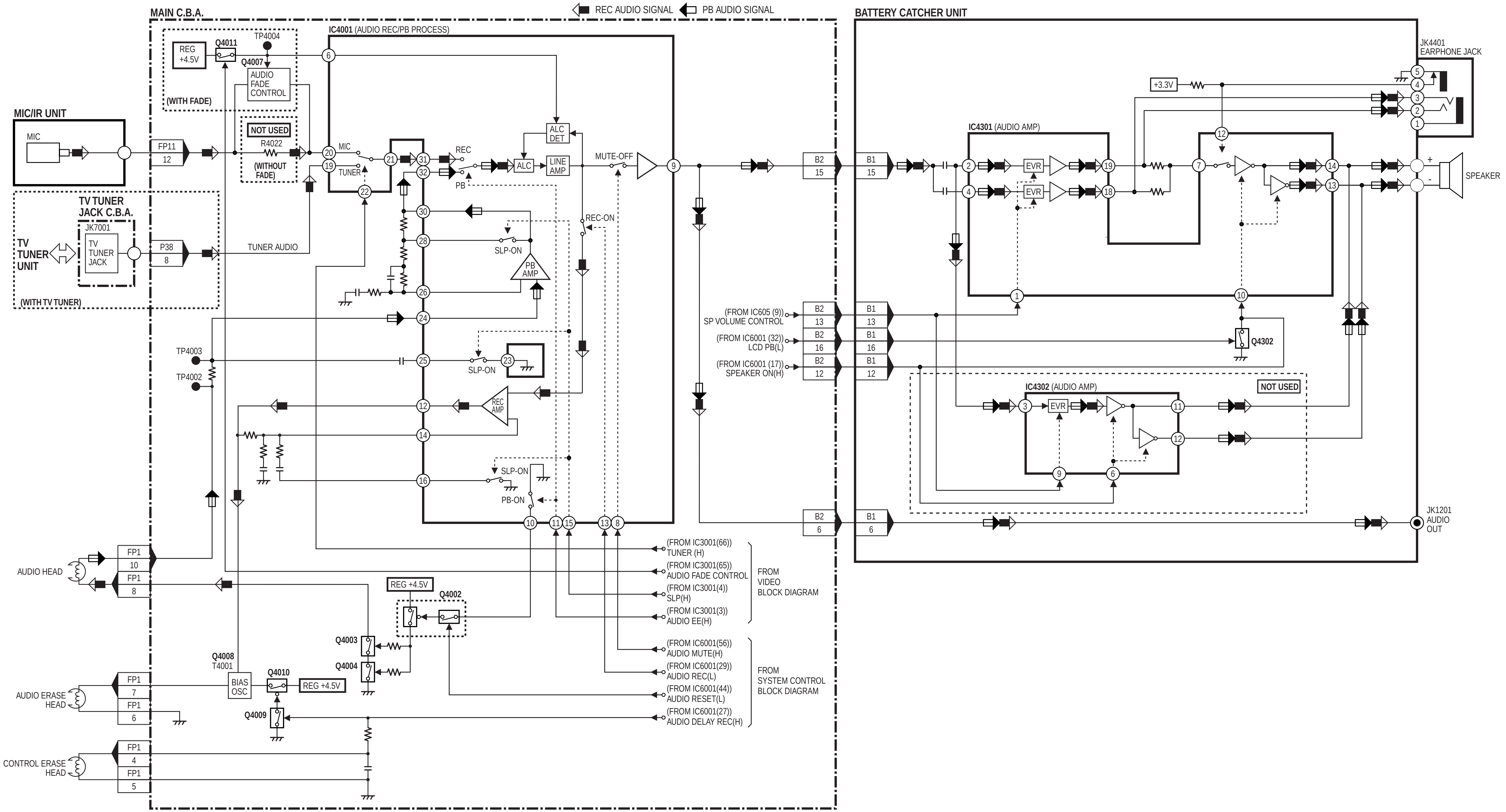

MAIN C.B.A.
TOP OPERATION UNIT
REC VIDEO SIGNAL
IC301 (DIGITAL SIGNAL PROCESSOR)
IC504(CAMERA/DSC MICROCONTROLLER)
ADDRESS 0 126
ADDRESS 1 125
ADDRESS 2 124
ADDRESS 3 123
ADDRESS 4 122
ADDRESS 5 119
ADDRESS 6 118
ADDRESS 7 117
DATA 0 136
DATA 1 133
DATA 2 132
DATA 3 131
DATA 4 130
DATA 5 129
DATA 6 128
DATA 7 127
WRITE ENABLE 103
READ ENABLE 104
BLOCK END CONTROL 91
DIS IRQ 144
ADDRESS (8 BIT)
DATA (8 BIT)
152 ADDRESS 0
151 ADDRESS 1
149 ADDRESS 2
148 ADDRESS 3
147 ADDRESS 4
146 ADDRESS 5
141 ADDRESS 6
136 ADDRESS 7
132 DATA 0
131 DATA 1
129 DATA 2
128 DATA 3
127 DATA 4
126 DATA 5
125 DATA 6
124 DATA 7
145 WRITE ENABLE
144 READ ENABLE
119 BLOCK END CONTROL
116 DIS IRQ
CAM KEY DATA 2 101
CAM KEY DATA 3 100
WIPE (L) 198
FP3 17
FP3 16
FP3 20
WIPE
OPERATION BUTTON
MF VR UNIT
SW820
AF/MF
FP4 1
FP4 2
CAM KEY DATA 4 99
(FROM LCD BLOCK DIAGRAM) BRIGHTNESS CONTROL
SERIAL CLOCK 184
SERIAL DATA 185
TG LOAD 189
SUB CONTROL PULSE 200
D/A LOAD 187
(TO IC602(8)/IC605(10)) SERIAL CLOCK
(TO IC602(4)/IC605(11)) SERIAL DATA
(TO IC602(22)) TG LOAD
(TO IC602(23)) SUB CONTROL PULSE
(FROM IC605(12)) D/A LOAD
TO CCD DRIVE BLOCK DIAGRAM
COLOR SEP. CONTROL 46
COLOR SEP. CONTROL 90
V CONTROL 139
CLAMP PULSE 97
BLANKING PULSE 98
V/H SYNC 99
BURST FLAG PULSE 101
H CLEAR PLUSE 102
FCK 89
FCK 108
CLOCK 69
(FROM IC602(19)) COLOR SEP. CONTROL
(FROM IC602(44)) V CONTROL
(FROM IC602(9)) CLAMP PULSE
(FROM IC602(12)) BLANKING PULSE
(FROM IC602(20)) V/H SYNC
(FROM IC602(13)) BURST FLAG PULSE
(FROM IC602(14)) H CLEAR PLUSE
(FROM IC602(49)) FCK
(FROM IC602(5)) CLOCK
(FROM IC602(17)) H-SYNC
(FROM IC602(18)) V-SYNC
FROM CCD DRIVE BLOCK DIAGRAM
TO COLOR EVF BLOCK DIAGRAM
EVF LOAD
SERIAL DATA 0
SERIAL CLOCK
188 EVF LOAD
(WITH COLOR EVF)
TO LCD BLOCK DIAGRAM
LCD LOAD
SERIAL DATA 0
SERIAL CLOCK
190 LCD LOAD
(WITH LCD)
IC306 (EEPROM)
SERIAL CLOCK 4
SERIAL DATA 0 5
SERIAL DATA 1 6
EEPROM CS (L) 3
211 SERIAL CLOCK
213 SERIAL DATA 0
214 SERIAL DATA 1
192 EEPROM CS (L)
CAM SERIAL DATA 1 201
CAM SERIAL DATA 0 202
CAM SERIAL CLOCK 203
(FROM IC6001(13)) CAM SERIAL DATA 1
(TO IC6001(12)) CAM SERIAL DATA 0
(TO IC6001(11)) CAM SERIAL CLOCK
(FROM IC6001(44)) CAM RESET (L)
FROM/TO SYSTEM CONTROL BLOCK DIAGRAM
V-SYNC 115
H-SYNC 116
CS 1 54
CS 2 53
CS 3 87
120 V-SYNC
172 H-SYNC
139 CS 1
138 CS 2
137 CS 3
V-REF (+3.3V)
V-REF (+1.3V)
111 V-REF (H)
110 V-REF (L)
FROM CCD DRIVE BLOCK DIAGRAM
(FROM IC605(2)) A/D SIGNAL
112 A/D SIGNAL
CHROMINANCE 77
LUMINANCE 78
V/H SYNC 50
Q305,Q307 BUFFER
Q303,Q306 BUFFER
Q302 AMP
Q301 BUFFER
(TO IC3001(34)) CHROMINANCE
(TO IC3001(1)) LUMINANCE
TO VIDEO BLOCK DIAGRAM
EVR SERIAL DATA 0 209
CAM RESET (L) 60
EVR SERIAL DATA 1 210
EVR SERIAL CLOCK 208
EVR MODE (L) 197
S301 10 EVR SERIAL DATA 0
S301 11 CAM RESET (L)
S301 8 EVR SERIAL DATA 1
S301 12 EVR SERIAL CLOCK
S301 6 EVR MODE (L)
S301 14 LUMINANCE
S301 9 V-SYNC
FROM/TO TP BOARD KIT (FOR EVR ADJUSTMENT)

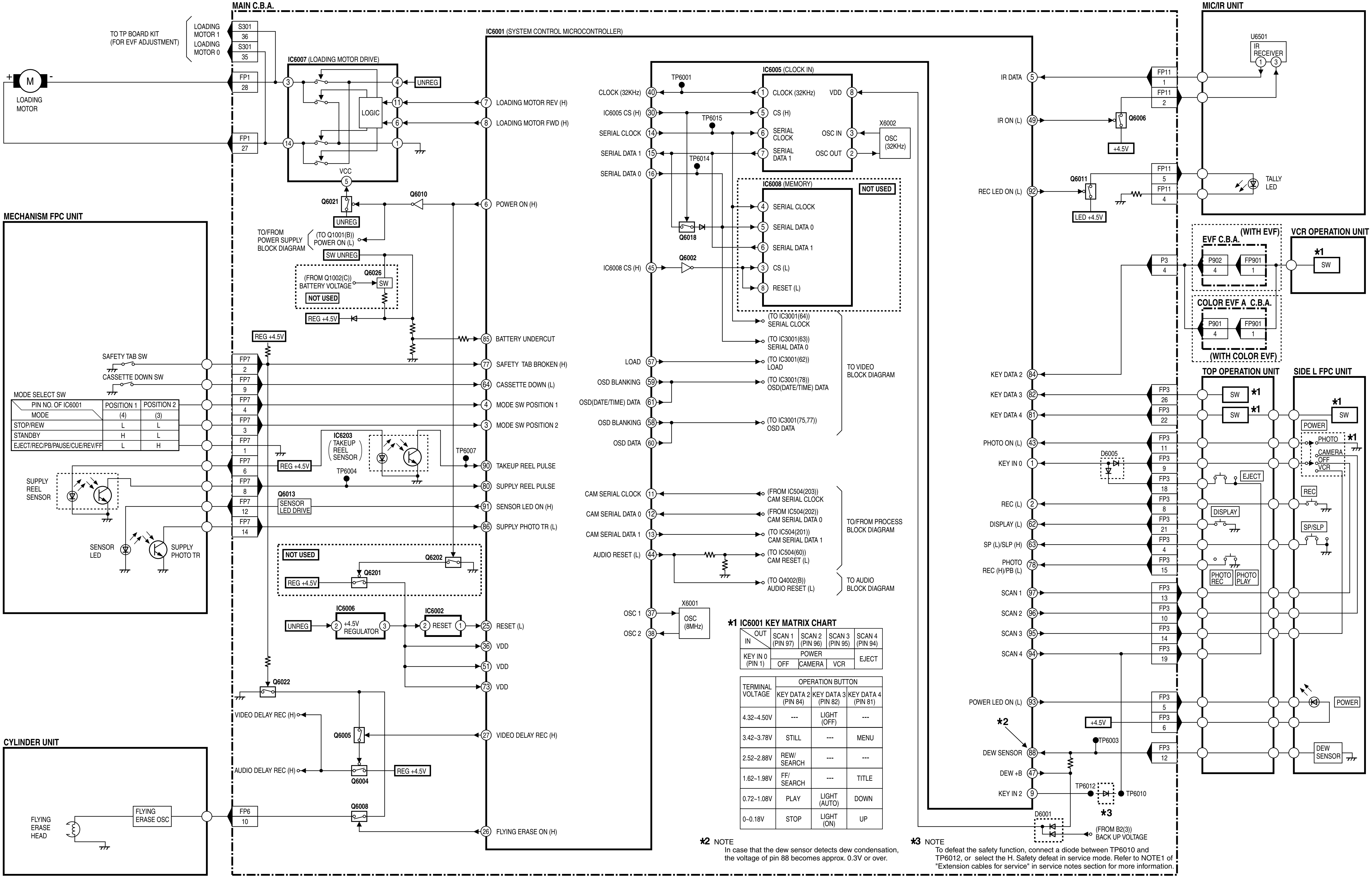
IC504 KEY MATRIX CHART

TERMINAL VOLTAGE	0~ 0.14V	0.71~ 0.99V	1.56~ 1.84V	2.41~ 2.69V	3.36~ 3.64V
OPERATION BUTTON	EIS	DIGITAL ZOOM	STILL /STROBE	HSS	----
	----	----	BACK LIGHT	FADE	----


REC VIDEO (CAMERA) SIGNAL
REC VIDEO SIGNAL PATH (PHOTO MODE)
PB VIDEO SIGNAL PATH (PHOTO MODE)
IMAGE DATA SIGNAL PATH (CF CARD ◄► PC)
LIVE IMAGE DATA SIGNAL PATH (CAMCORDER → PC)
MAIN C.B.A.
IC301 (DIGITAL SIGNAL PROCESS)
FROM CCD DRIVE BLOCK DIAGRAM
(FROM IC605 (2)) A/D SIGNAL
A/D
SIGNAL PROCESS
CHROMINANCE (R-Y/B-Y) (REC)
LUMINANCE (REC)
IC310 (PB-OFF) (3 STATE BUFFER)
IC311 (PB-OFF) (3 STATE BUFFER)
DATA 0
DATA 1
DATA 2
DATA 3
DATA 4
DATA 5
DATA 6
DATA 7
CHROMINANCE (R-Y/B-Y) (REC) 4BIT DATA
CHROMINANCE (R-Y/B-Y) (PB) 4BIT DATA
LUMINANCE (PB) 8BIT DATA
LUMINANCE (REC) 8BIT DATA
IC302 (FIELD MEMORY)
CHROMINANCE(R-Y/B-Y) DATA (4 BIT)
LUMINANCE DATA (8 BIT)
READ RESET
READ ADDRESS
READ ADDRESS ENABLE
WRITE ADDRESS ENABLE
WRITE ADDRESS
WRITE RESET
WRITE ENABLE
READ CLOCK
WRITE CLOCK
FIELD MEMORY CONTROL
READ CLOCK (9.545MHz)
NORMAL MODE
PHOTO MODE
LUMINANCE (PB)
CHROMINANCE (R-Y/B-Y) (PB)
D/A
CHROMINANCE (REC/PB)
LUMINANCE (REC/PB)
CHROMINANCE
LUMINANCE
IC3001
TO IC9001 FOR LCD DISPLAY
TO IC901 FOR EVF DISPLAY
IC504 (CAMERA/DSC MICROCONTROLLER)
RS-232C SIGNAL PROCESS (FORMATTING)
TXD
RXD
SERIAL DATA
0-3.5V
+/- 9V
IC503
RS-232C INTERFACE
P38
PC JACK C.B.A.
JK1
PC CONNECTOR
PC
(JPEG DATA)
JPEG COMPRESSION /DE-COMPRESSION
CHROMINANCE (R-Y/B-Y) (PB)
LUMINANCE (PB)
LUMINANCE (REC)
PHOTO MODE
WRITE CLOCK (2MHz)
POWER ON RESET
(PV-L850)
(TO IC602 (2)) SYSTEM CLOCK(28.6MHz)
(PV-L750/PV-L780)
WRITE ADDRESS ENABLE
READ RESET
READ ADDRESS
WRITE ADDRESS
WRITE RESET
WRITE ENABLE
READ ADDRESS (PV-L750/PV-L780)
SYSTEM CLOCK(28.6MHz) (PV-L850)
IC304 (3 STATE BUFFER)
(PHOTO MODE OFF)
OUTPUT ENABLE 1
CHROMINANCE (R-Y/B-Y) (REC)
X501 28.6MHz OSC
8 FCK
TO CCD BLOCK DIAGRAM
(FROM IC602(49)) FCK
(WRITE CLOCK(9.545MHz))
(FROM IC606(4)) 8 FCK(28.6MHz)
CF CARD CONNECTOR UNIT
ADDRESS 0
ADDRESS 1
ADDRESS 2
ADDRESS 3
ADDRESS 4
ADDRESS 5
ADDRESS 6
ADDRESS 7
ADDRESS 8
ADDRESS 9
ADDRESS 10
DATA 8
DATA 9
DATA 10
DATA 11
DATA 12
DATA 13
DATA 14
DATA 15
FP13
CF CARD (8 MB)


REC VIDEO SIGNAL
PB VIDEO SIGNAL
MAIN C.B.A.
TO EVF BLOCK DIAGRAM
LUMINANCE
(WITH EVF)
P3
1
TO COLOR EVF BLOCK DIAGRAM
LUMINANCE
B-Y
R-Y
P3
1
P3
7
P3
6
(WITH COLOR EVF)
TO LCD BLOCK DIAGRAM
LUMINANCE
B-Y
R-Y
P2
8
P2
10
P2
9
(WITH LCD)
IC3001 (LUMINANCE/CHROMINANCE SIGNAL PROCESS)
Y/C MIX
73
45
(FROM IC6001(24)) V-LOCK PULSE
FROM SERVO BLOCK DIAGRAM
OSD DATA MIX
61
76
Q3029
BUFFER
37
B-Y DEMODULATOR
Q3028
BUFFER
36
R-Y DEMODULATOR
ART V-SYNC MIX
BATTERY CATCHER UNIT
B2
10
B1
10
JK1201
VIDEO OUT
S301
26
H-SYNC
S301
27
PB LUMINANCE
S301
32
REC CHROMINANCE
S301
33
REC LUMINANCE
S301
29
ENVELOPE
S301
30
HEAD SW
TO TP BOARD KIT (FOR EVR ADJUSTMENT)
Q3022
BUFFER
Q3021
BUFFER
TV TUNER JACK C.B.A.
JK7001
TV TUNER JACK
TV TUNER UNIT
TUNER LUMINANCE
TUNER CHROMINANCE/TUNER DET(+2V)
(WITH TV TUNER)
P38
7
P38
5
IC3003 (SW)
H
L
1
2
13
12
15
14
11
10
R3191
R3192
(WITHOUT TV TUNER)
FROM PROCESS BLOCK DIAGRAM
(FROM IC301(77)) CHROMINANCE
(FROM IC301(78)) LUMINANCE
34
1
REC
PB
REC/PB CHROMINANCE SIGNAL PROCESS
REC-C
38
PB-C
31
TP3006
FP6
2
FP6
1
Q3027
AMP
L3015,L3016, C3059,C3060
BPF
TP3005
Q3031
Q3030
+4.5V
(WITH TV TUNER)
80
79
OSD DATA (DATE/TIME) MIX
REC/PB-Y
REC-Y
27
PB-Y
22
REC/PB LUMINANCE SIGNAL PROCESS
9
16
12
10
CHROMA PHASE COMPENSATOR
Q3004,Q3005
BUFFER
Q3003
AGC
23
25
FROM SYSTEM CONTROL BLOCK DIAGRAM
(TO IC6001(87)) TUNER DET (H)
TP3001
(FROM IC6001(98)) ROTARY SW
60
ROTARY SW
(FROM IC6001(58)) OSD BLANKING
(FROM IC6001(60)) OSD DATA
77
OSD DATA
(FROM IC6001(59)) OSD BLANKING
75
OSD DATA
(FROM IC6001(61)) OSD(DATE/TIME) DATA
78
OSD(DATE/TIME) DATA
(FROM IC6001(57)) LOAD
62
(FROM IC6001(16)) SERIAL DATA 0
63
(FROM IC6001(14)) SERIAL CLOCK
64
D/A CONVERTER
EE (H)
SLP (H)
3
4
65
66
44
42
14
13
TO AUDIO BLOCK DIAGRAM
(TO IC4001(11)) AUDIO EE (H)
(TO IC4001(15)) SLP (H)
(TO Q4011(B)) AUDIO FADE CONTROL
(TO IC4001(22)) TUNER(H)
8
6
11
15
CCD 1H DELAY
CCD 1H DELAY
IC3002 (TWIN CCD 1H DELAY)
FROM SYSTEM CONTROL BLOCK DIAGRAM
(FROM IC6001(27)) VIDEO DELAY REC (H)
FP6
5
TO/FROM SERVO BLOCK DIAGRAM
(FROM IC6001(23)) HEAD SW
FP6
9
(FROM IC6001(99)) HEAD AMP SW
FP6
8
(TO IC6001(100)) ENVELOPE DET
FP6
4
(TO IC6001(89)) ENV-VOLTAGE
FP6
3
NOT USED
CYLINDER UNIT (FOR 4 HEAD MODEL)
IC3501 (HEAD AMP)
FP3501
11
31
PB-ON
SP
SLP
3
10
VIDEO SP (L) HEAD
4
6
VIDEO SP (R) HEAD
L
R
REC -ON
REC -ON
FP3501
12
30
SP
SLP
FP3501
10
27
AT ENV.
FP3501
9
34
ENV-DET
7
9
VIDEO SLP (L) HEAD
VIDEO SLP (R) HEAD
L
R
REC -ON
REC -ON
FP3501
6
2
FP3501
5
1
FP3501
8
25
REC (H)
CYLINDER UNIT (FOR 2 HEAD MODEL)
IC3501 (HEAD AMP)
FP3501
11
31
PB-ON
3
VIDEO (L) HEAD
FP3501
12
30
L
R
4
6
VIDEO (R) HEAD
REC -ON
REC -ON
FP3501
10
27
AT ENV.
FP3501
5
1
FP3501
8
25
REC (H)


REC AUDIO SIGNAL
PB AUDIO SIGNAL
MAIN C.B.A.
BATTERY CATCHER UNIT
REG +4.5V
Q4011
TP4004
Q4007
AUDIO FADE CONTROL
(WITH FADE)
IC4001 (AUDIO REC/PB PROCESS)
MIC/IR UNIT
MIC
FP11
12
NOT USED
R4022
(WITHOUT FADE)
MIC
TUNER
REC
PB
ALC DET
ALC
LINE AMP
MUTE-OFF
REC-ON
TV TUNER JACK C.B.A.
JK7001
TV TUNER UNIT
TV TUNER JACK
P38
8
TUNER AUDIO
(WITH TV TUNER)
SLP-ON
PB AMP
TP4003
TP4002
SLP-ON
REC AMP
SLP-ON
PB-ON
AUDIO HEAD
FP1
10
FP1
8
REG +4.5V
Q4002
Q4003
Q4004
Q4008
T4001
BIAS OSC
Q4010
REG +4.5V
Q4009
AUDIO ERASE HEAD
FP1
7
FP1
6
CONTROL ERASE HEAD
FP1
4
FP1
5
(FROM IC3001(66)) TUNER (H)
(FROM IC3001(65)) AUDIO FADE CONTROL
(FROM IC3001(4)) SLP(H)
(FROM IC3001(3)) AUDIO EE(H)
FROM VIDEO BLOCK DIAGRAM
(FROM IC6001(56)) AUDIO MUTE(H)
(FROM IC6001(29)) AUDIO REC(L)
(FROM IC6001(44)) AUDIO RESET(L)
(FROM IC6001(27)) AUDIO DELAY REC(H)
FROM SYSTEM CONTROL BLOCK DIAGRAM
B2
15
B1
15
(FROM IC605 (9)) SP VOLUME CONTROL
B2 13
B1 13
(FROM IC6001 (32)) LCD PB(L)
B2 16
B1 16
(FROM IC6001 (17)) SPEAKER ON(H)
B2 12
B1 12
B2 6
B1 6
JK4401 EARPHONE JACK
+3.3V
IC4301 (AUDIO AMP)
EVR
EVR
SPEAKER
+
-
Q4302
IC4302 (AUDIO AMP)
EVR
NOT USED
JK1201 AUDIO OUT


MAIN C.B.A.
MIC/IR UNIT
MECHANISM FPC UNIT
CYLINDER UNIT
TO TP BOARD KIT
(FOR EVF ADJUSTMENT)
LOADING MOTOR 1
LOADING MOTOR 0
S301
36
35
M
LOADING MOTOR
FP1
28
27
IC6007 (LOADING MOTOR DRIVE)
LOGIC
VCC
UNREG
Q6021
Q6010
TO/FROM POWER SUPPLY BLOCK DIAGRAM
(TO Q1001(B)) POWER ON (L)
SW UNREG
(FROM Q1002(C)) BATTERY VOLTAGE
Q6026
SW
NOT USED
REG +4.5V
IC6001 (SYSTEM CONTROL MICROCONTROLLER)
LOADING MOTOR REV (H)
LOADING MOTOR FWD (H)
POWER ON (H)
BATTERY UNDERCUT
SAFETY TAB BROKEN (H)
CASSETTE DOWN (L)
MODE SW POSITION 1
MODE SW POSITION 2
TAKEUP REEL PULSE
SUPPLY REEL PULSE
SENSOR LED ON (H)
SUPPLY PHOTO TR (L)
RESET (L)
VDD
VIDEO DELAY REC (H)
FLYING ERASE ON (H)
SAFETY TAB SW
CASSETTE DOWN SW
MODE SELECT SW
FP7
SUPPLY REEL SENSOR
SENSOR LED
SUPPLY PHOTO TR
IC6203 TAKEUP REEL SENSOR
TP6007
TP6004
Q6013
SENSOR LED DRIVE
Q6202
Q6201
IC6006
+4.5V REGULATOR
IC6002
RESET
Q6022
VIDEO DELAY REC (H)
AUDIO DELAY REC (H)
Q6005
Q6004
Q6008
FLYING ERASE HEAD
FLYING ERASE OSC
FP6
10
IC6005 (CLOCK IN)
TP6001
TP6015
TP6014
CLOCK (32KHz)
IC6005 CS (H)
SERIAL CLOCK
SERIAL DATA 1
SERIAL DATA 0
CS (H)
VDD
OSC IN
OSC OUT
X6002
OSC (32KHz)
IC6008 (MEMORY)
NOT USED
IC6008 CS (H)
Q6018
Q6002
CS (L)
RESET (L)
(TO IC3001(64)) SERIAL CLOCK
(TO IC3001(63)) SERIAL DATA 0
(TO IC3001(62)) LOAD
(TO IC3001(78)) OSD(DATE/TIME) DATA
(TO IC3001(75,77)) OSD DATA
TO VIDEO BLOCK DIAGRAM
LOAD
OSD BLANKING
OSD(DATE/TIME) DATA
OSD DATA
CAM SERIAL CLOCK
CAM SERIAL DATA 0
CAM SERIAL DATA 1
AUDIO RESET (L)
(FROM IC504(203)) CAM SERIAL CLOCK
(FROM IC504(202)) CAM SERIAL DATA 0
(TO IC504(201)) CAM SERIAL DATA 1
(TO IC504(60)) CAM RESET (L)
TO/FROM PROCESS BLOCK DIAGRAM
(TO Q4002(B)) AUDIO RESET (L)
TO AUDIO BLOCK DIAGRAM
OSC 1
OSC 2
X6001
OSC (8MHz)
IR DATA
IR ON (L)
REC LED ON (L)
Q6006
Q6011
+4.5V
LED +4.5V
FP11
U6501
IR RECEIVER
TALLY LED
(WITH EVF)
EVF C.B.A.
P902
FP901
P3
COLOR EVF A C.B.A.
P901
(WITH COLOR EVF)
VCR OPERATION UNIT
*1
SW
KEY DATA 2
KEY DATA 3
KEY DATA 4
PHOTO ON (L)
KEY IN 0
D6005
REC (L)
DISPLAY (L)
SP (L)/SLP (H)
PHOTO REC (H)/PB (L)
SCAN 1
SCAN 2
SCAN 3
SCAN 4
POWER LED ON (L)
DEW SENSOR
DEW +B
KEY IN 2
*2
TP6003
TP6012
TP6010
*3
D6001
(FROM B2(3)) BACK UP VOLTAGE
FP3
TOP OPERATION UNIT
SIDE L FPC UNIT
POWER
PHOTO
CAMERA
OFF
VCR
EJECT
REC
DISPLAY
SP/SLP
PHOTO REC
PHOTO PLAY
DEW SENSOR

MODE SELECT SW

PIN NO. OF IC6001 / MODE	POSITION 1 (4)	POSITION 2 (3)
STOP/REW	L	L
STANDBY	H	L
EJECT/REC/PB/PAUSE/CUE/REV/FF	L	H

***1 IC6001 KEY MATRIX CHART**

OUT / IN	SCAN 1 (PIN 97)	SCAN 2 (PIN 96)	SCAN 3 (PIN 95)	SCAN 4 (PIN 94)
KEY IN 0 (PIN 1)	POWER OFF	POWER CAMERA	POWER VCR	EJECT

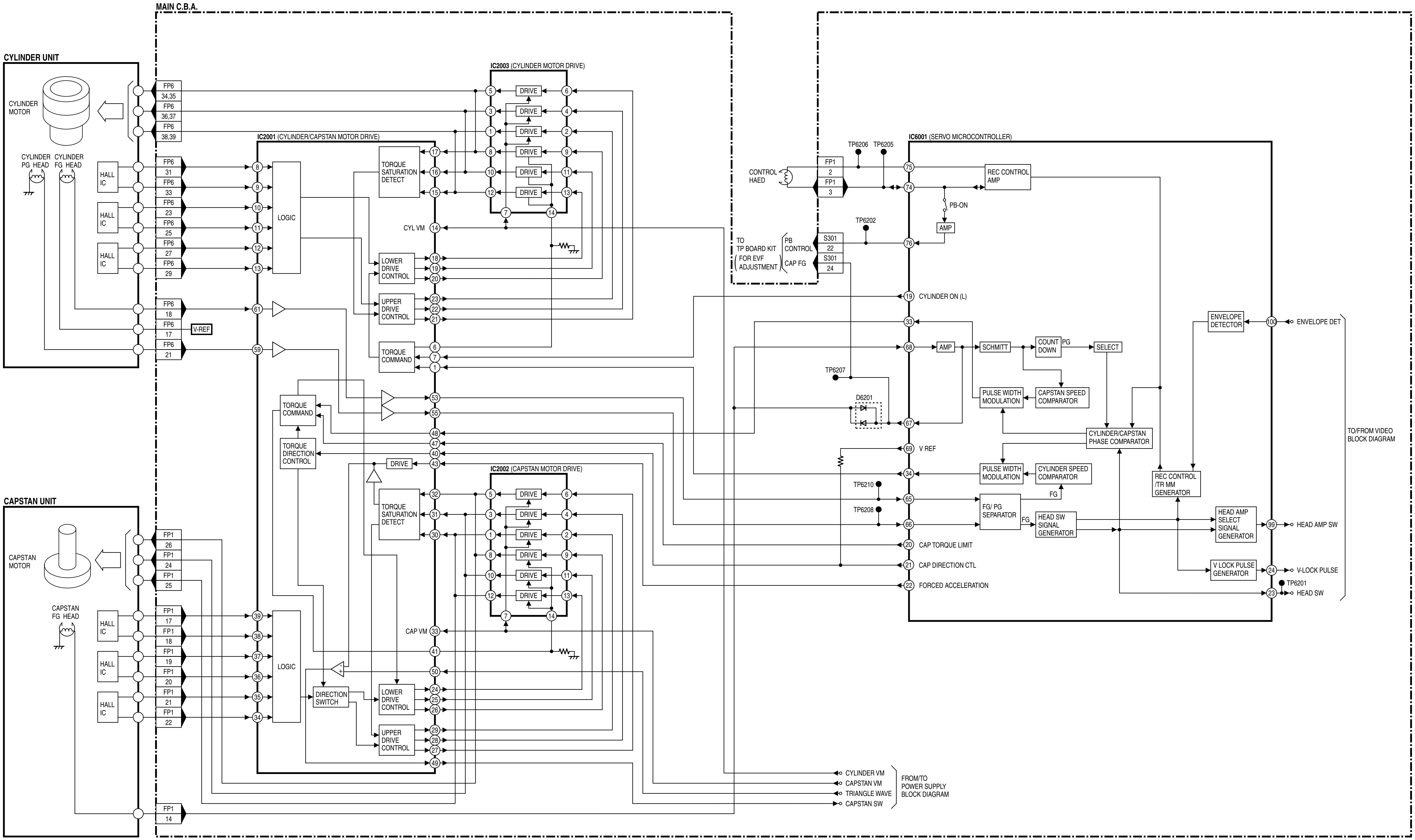
TERMINAL VOLTAGE	OPERATION BUTTON		
	KEY DATA 2 (PIN 84)	KEY DATA 3 (PIN 82)	KEY DATA 4 (PIN 81)
4.32~4.50V	---	LIGHT (OFF)	---
3.42~3.78V	STILL	---	MENU
2.52~2.88V	REW/ SEARCH	---	---
1.62~1.98V	FF/ SEARCH	---	TITLE
0.72~1.08V	PLAY	LIGHT (AUTO)	DOWN
0~0.18V	STOP	LIGHT (ON)	UP

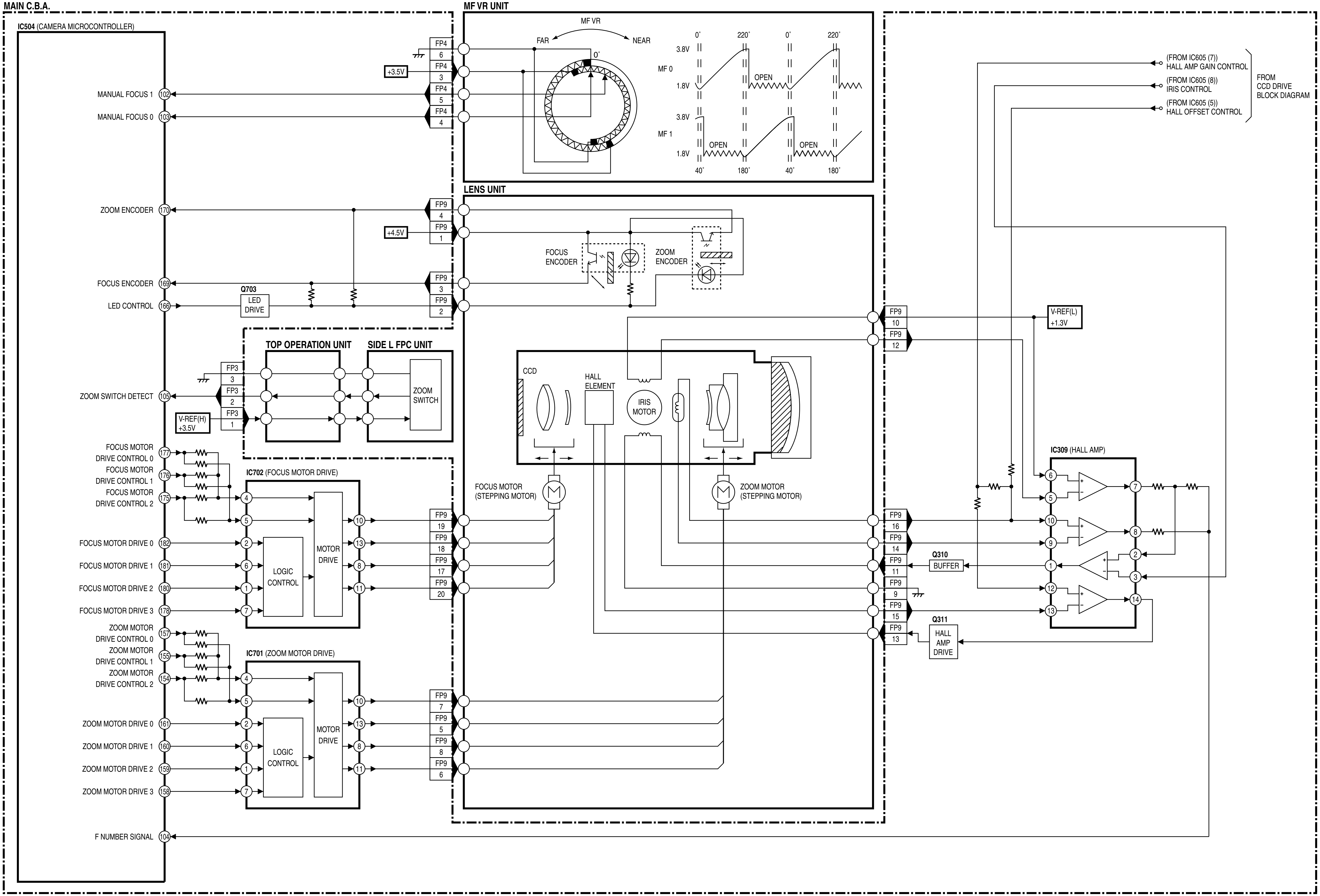
***2** NOTE

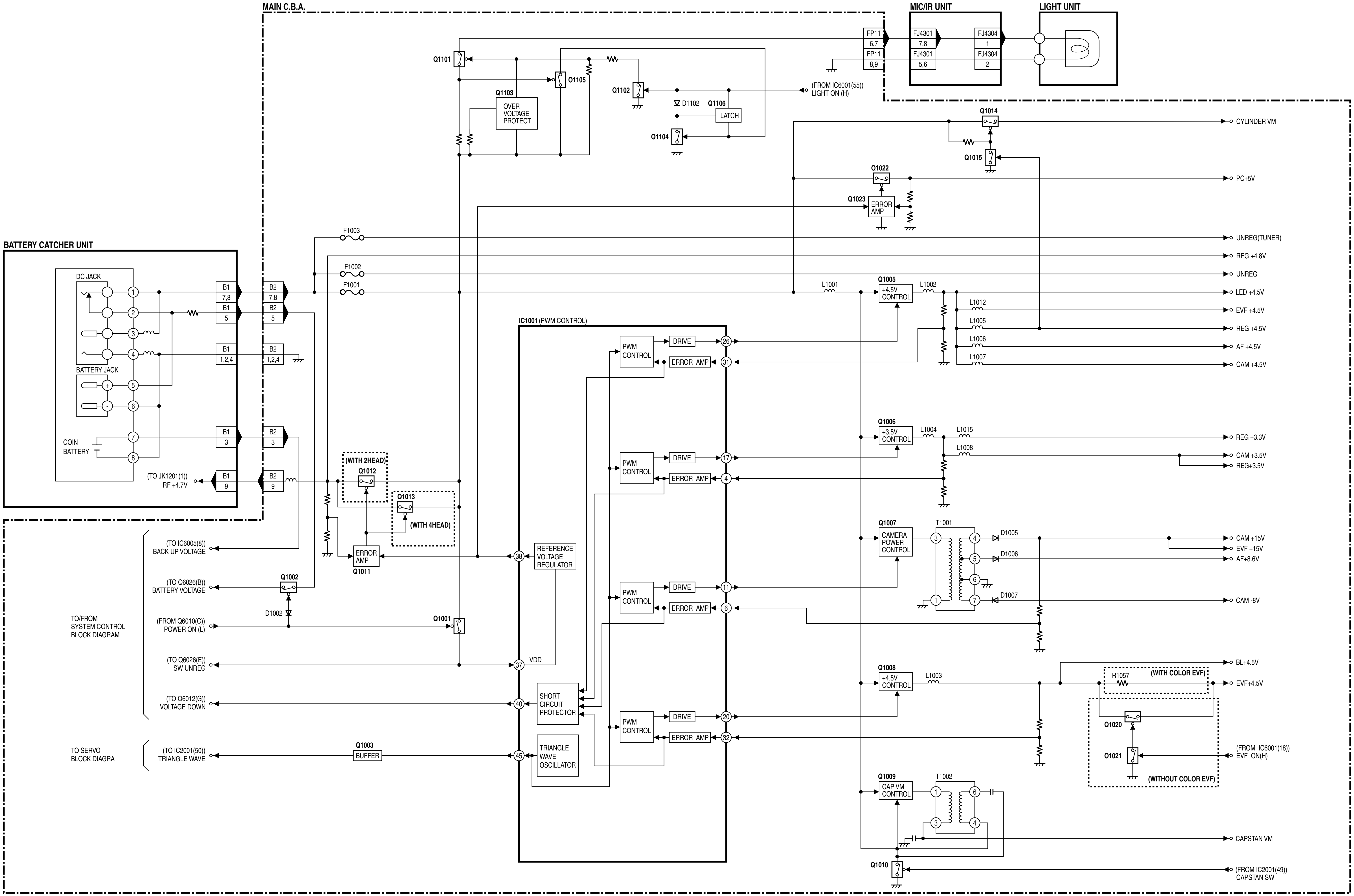
In case that the dew sensor detects dew condensation, the voltage of pin 88 becomes approx. 0.3V or over.

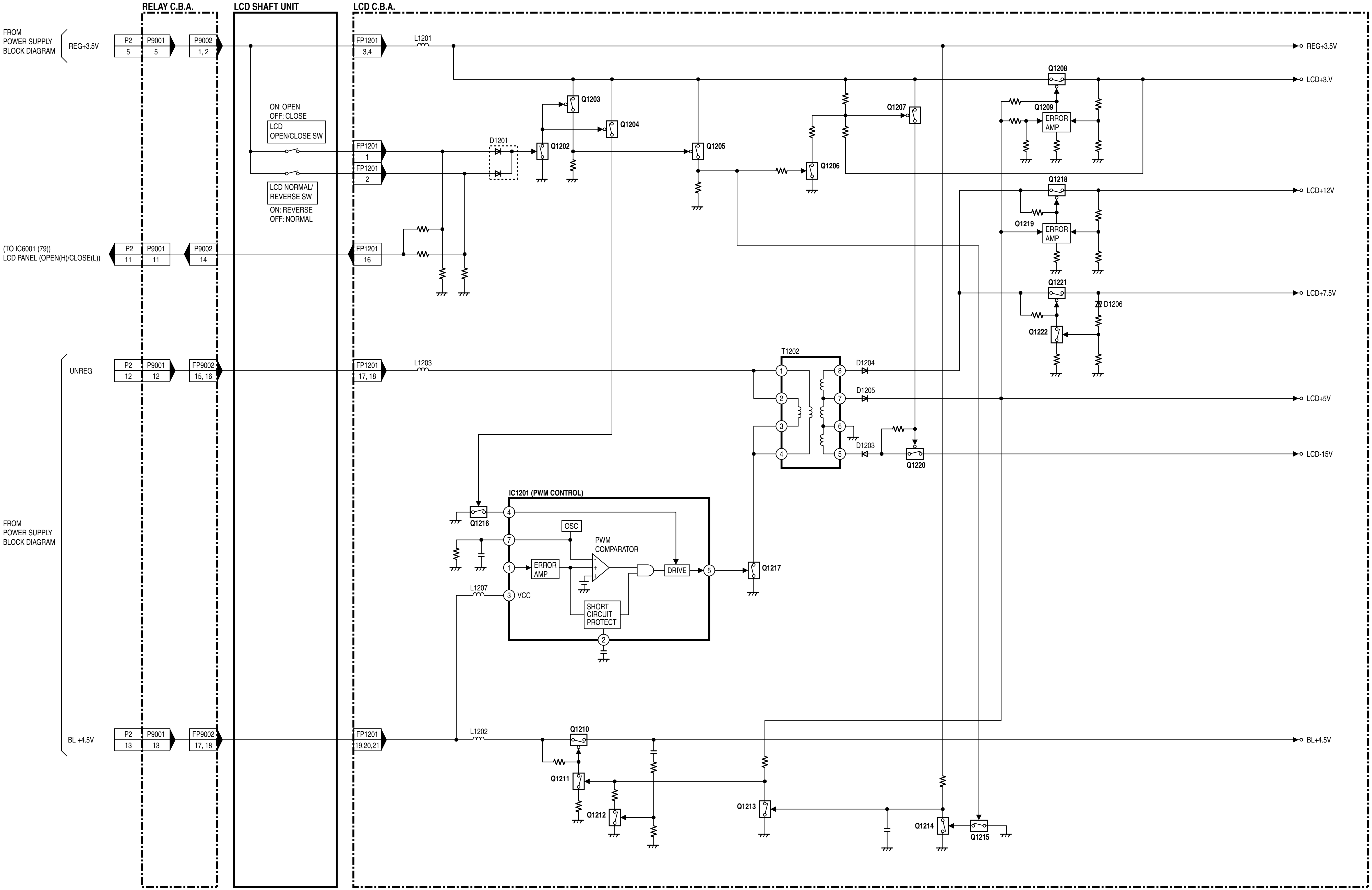
***3** NOTE

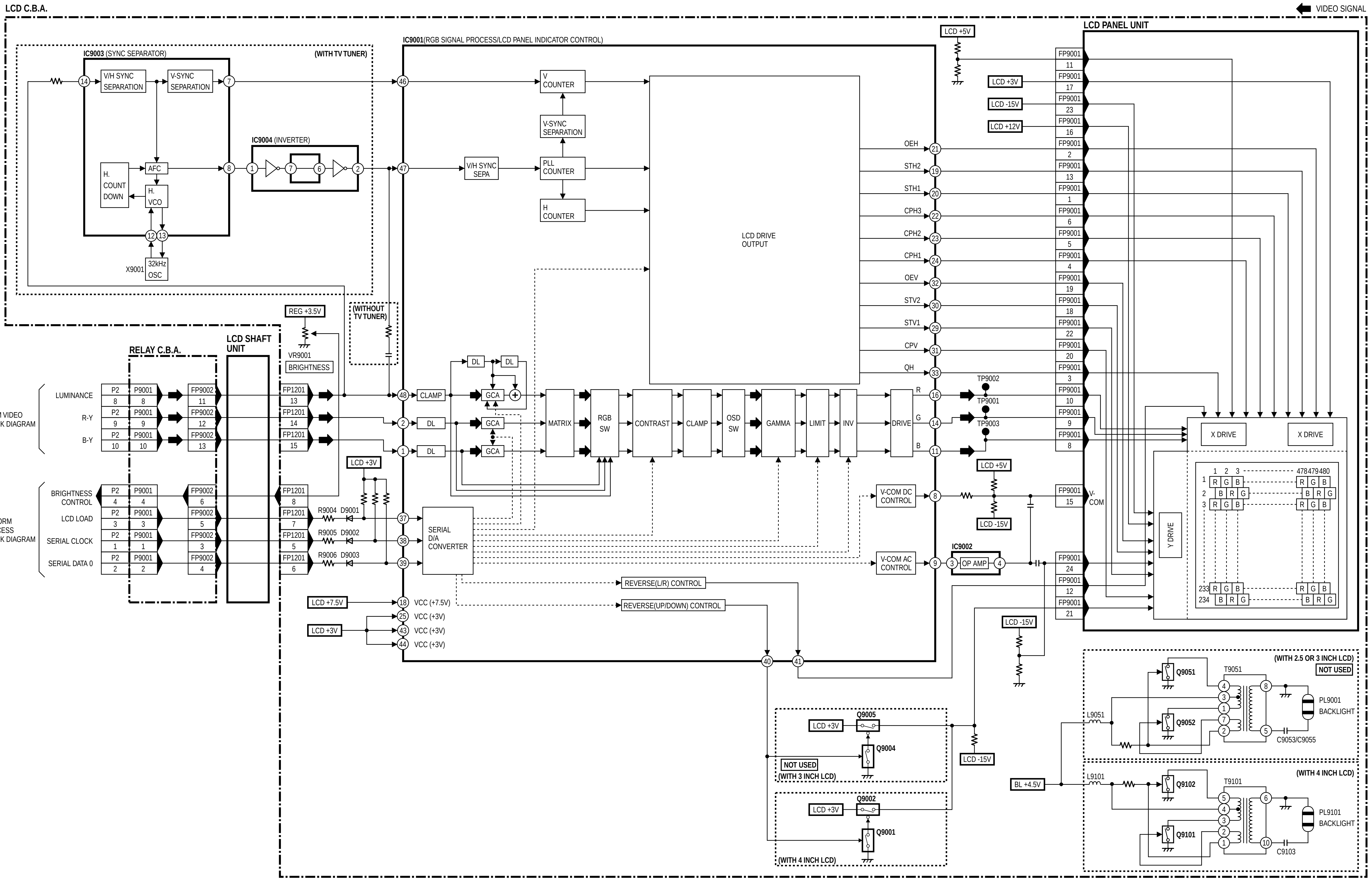
To defeat the safety function, connect a diode between TP6010 and TP6012, or select the H. Safety defeat in service mode. Refer to NOTE1 of "Extension cables for service" in service notes section for more information.

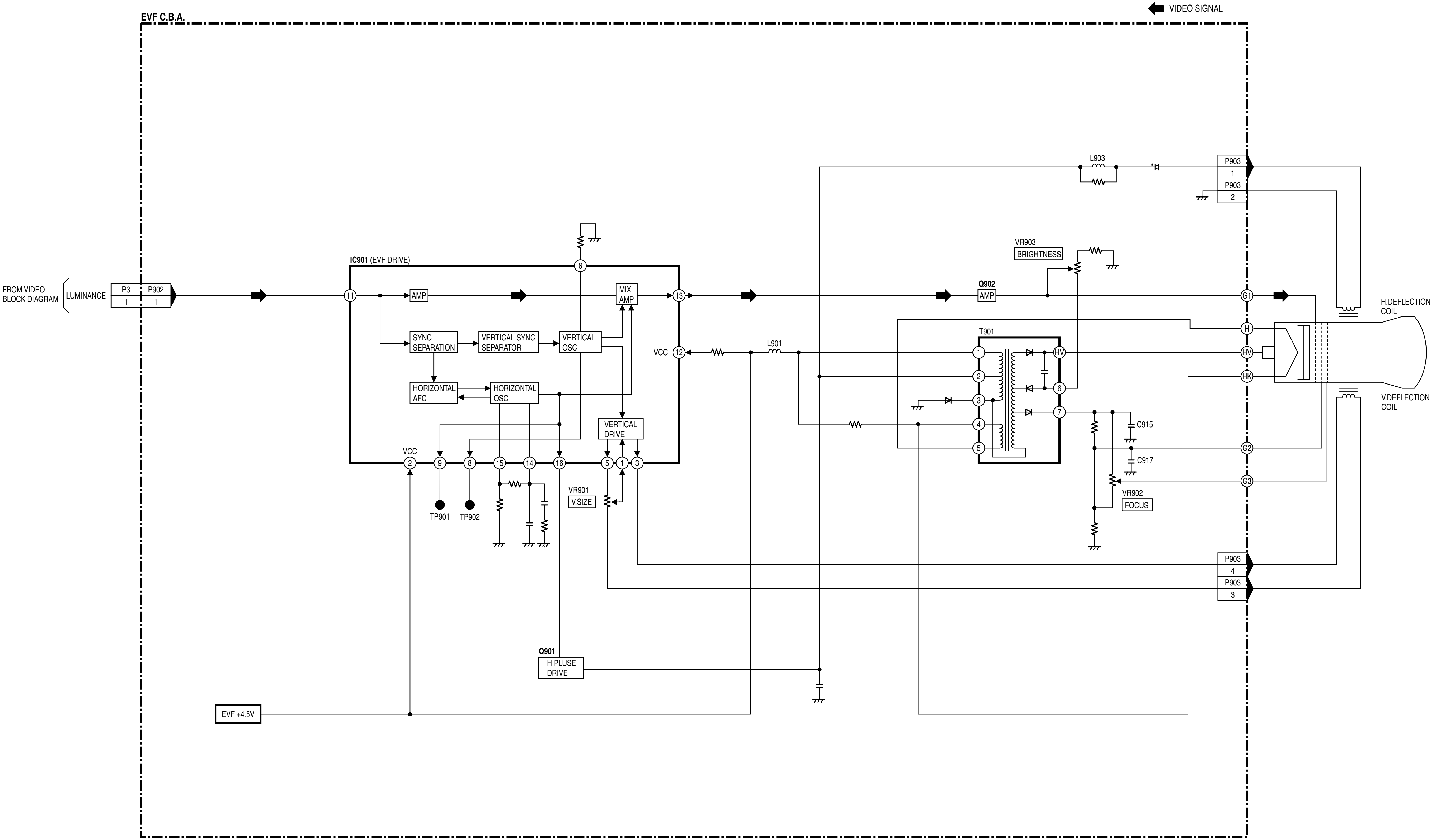

MAIN C.B.A.
CYLINDER UNIT
CYLINDER MOTOR
CYLINDER PG HEAD
CYLINDER FG HEAD
HALL IC
HALL IC
HALL IC
FP6
34,35
36,37
38,39
31
33
23
25
27
29
18
17
21
V-REF
IC2003 (CYLINDER MOTOR DRIVE)
DRIVE
IC2001 (CYLINDER/CAPSTAN MOTOR DRIVE)
LOGIC
TORQUE SATURATION DETECT
LOWER DRIVE CONTROL
UPPER DRIVE CONTROL
TORQUE COMMAND
CYL VM
TORQUE COMMAND
TORQUE DIRECTION CONTROL
DRIVE
IC2002 (CAPSTAN MOTOR DRIVE)
CAP VM
DIRECTION SWITCH
CAPSTAN UNIT
CAPSTAN MOTOR
CAPSTAN FG HEAD
FP1
26
24
25
17
18
19
20
21
22
14
CYLINDER VM
CAPSTAN VM
TRIANGLE WAVE
CAPSTAN SW
FROM/TO POWER SUPPLY BLOCK DIAGRAM
CONTROL HAED
TP6206
TP6205
TO TP BOARD KIT (FOR EVF ADJUSTMENT)
PB CONTROL
CAP FG
S301
TP6202
TP6207
D6201
TP6210
TP6208
IC6001 (SERVO MICROCONTROLLER)
REC CONTROL AMP
PB-ON
AMP
CYLINDER ON (L)
ENVELOPE DETECTOR
ENVELOPE DET
AMP
SCHMITT
COUNT DOWN
PG
SELECT
PULSE WIDTH MODULATION
CAPSTAN SPEED COMPARATOR
CYLINDER/CAPSTAN PHASE COMPARATOR
V REF
PULSE WIDTH MODULATION
CYLINDER SPEED COMPARATOR
REC CONTROL /TR MM GENERATOR
FG
FG/ PG SEPARATOR
FG
HEAD SW SIGNAL GENERATOR
HEAD AMP SELECT SIGNAL GENERATOR
HEAD AMP SW
CAP TORQUE LIMIT
CAP DIRECTION CTL
V LOCK PULSE GENERATOR
V-LOCK PULSE
FORCED ACCELERATION
TP6201
HEAD SW
TO/FROM VIDEO BLOCK DIAGRAM

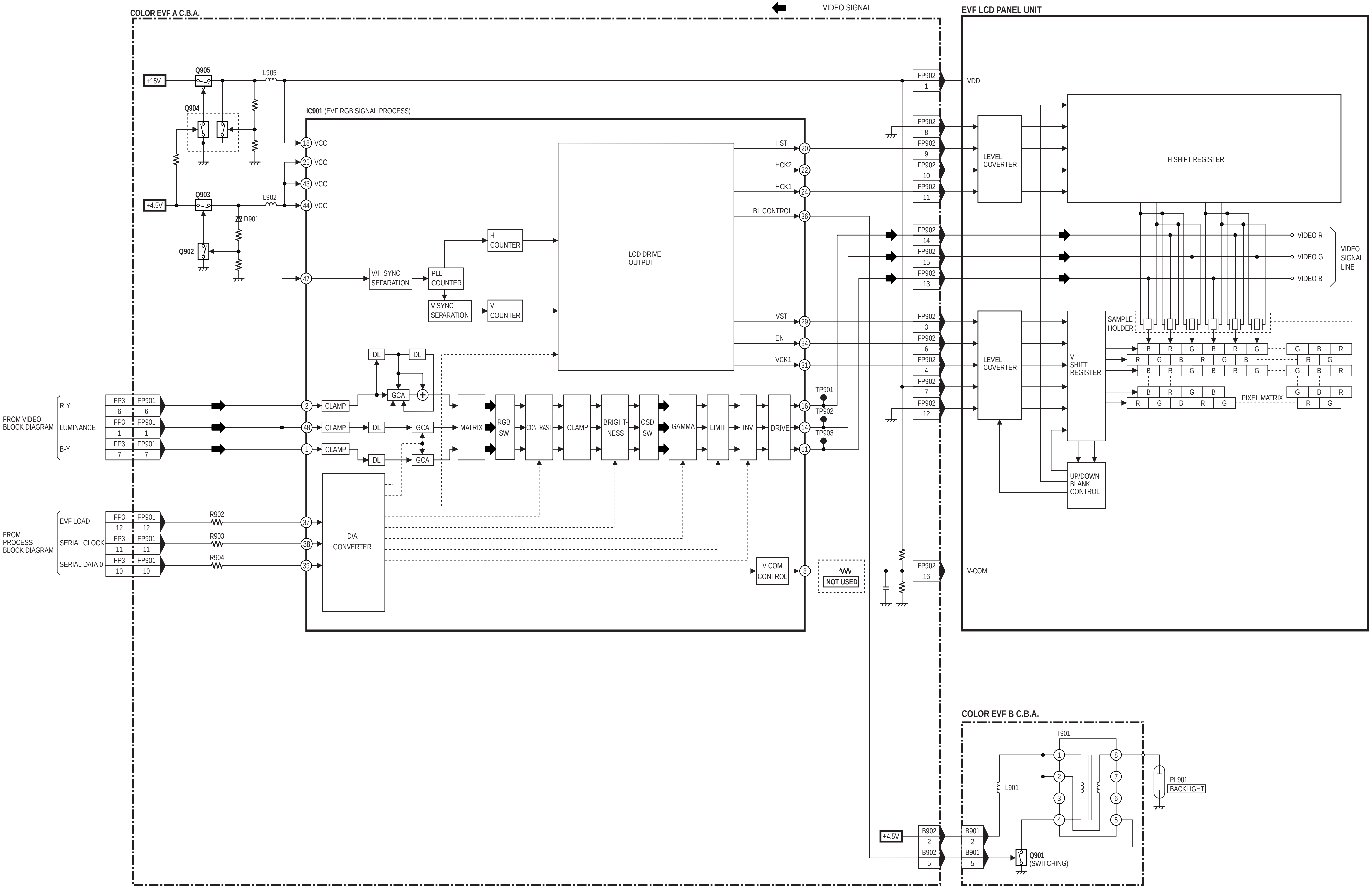

MAIN C.B.A.
IC504 (CAMERA MICROCONTROLLER)
MANUAL FOCUS 1
102
MANUAL FOCUS 0
103
ZOOM ENCODER
170
FOCUS ENCODER
169
LED CONTROL
166
ZOOM SWITCH DETECT
105
FOCUS MOTOR DRIVE CONTROL 0
177
FOCUS MOTOR DRIVE CONTROL 1
176
FOCUS MOTOR DRIVE CONTROL 2
175
FOCUS MOTOR DRIVE 0
182
FOCUS MOTOR DRIVE 1
181
FOCUS MOTOR DRIVE 2
180
FOCUS MOTOR DRIVE 3
178
ZOOM MOTOR DRIVE CONTROL 0
157
ZOOM MOTOR DRIVE CONTROL 1
155
ZOOM MOTOR DRIVE CONTROL 2
154
ZOOM MOTOR DRIVE 0
161
ZOOM MOTOR DRIVE 1
160
ZOOM MOTOR DRIVE 2
159
ZOOM MOTOR DRIVE 3
158
F NUMBER SIGNAL
104
FP4 6
+3.5V
FP4 3
FP4 5
FP4 4
MF VR UNIT
MF VR
FAR
NEAR
0˚
0˚
220˚
0˚
220˚
3.8V
MF 0
1.8V
OPEN
3.8V
MF 1
1.8V
OPEN
OPEN
40˚
180˚
40˚
180˚
LENS UNIT
FP9 4
+4.5V
FP9 1
FP9 3
FP9 2
Q703
LED DRIVE
FOCUS ENCODER
ZOOM ENCODER
TOP OPERATION UNIT
SIDE L FPC UNIT
FP3 3
FP3 2
FP3 1
V-REF(H) +3.5V
ZOOM SWITCH
CCD
HALL ELEMENT
IRIS MOTOR
FOCUS MOTOR (STEPPING MOTOR)
ZOOM MOTOR (STEPPING MOTOR)
IC702 (FOCUS MOTOR DRIVE)
LOGIC CONTROL
MOTOR DRIVE
4
5
2
6
1
7
10
13
8
11
FP9 19
FP9 18
FP9 17
FP9 20
IC701 (ZOOM MOTOR DRIVE)
LOGIC CONTROL
MOTOR DRIVE
4
5
2
6
1
7
10
13
8
11
FP9 7
FP9 5
FP9 8
FP9 6
(FROM IC605 (7)) HALL AMP GAIN CONTROL
(FROM IC605 (8)) IRIS CONTROL
(FROM IC605 (5)) HALL OFFSET CONTROL
FROM CCD DRIVE BLOCK DIAGRAM
FP9 10
FP9 12
V-REF(L) +1.3V
IC309 (HALL AMP)
6
5
10
9
1
12
13
7
8
2
3
14
FP9 16
FP9 14
FP9 11
FP9 9
FP9 15
FP9 13
Q310
BUFFER
Q311
HALL AMP DRIVE


MAIN C.B.A.
MIC/IR UNIT
LIGHT UNIT
BATTERY CATCHER UNIT
DC JACK
BATTERY JACK
COIN
BATTERY
B1
7,8
5
1,2,4
3
9
B2
FP11
6,7
8,9
FJ4301
7,8
5,6
FJ4304
1
2
Q1101
Q1103
OVER
VOLTAGE
PROTECT
Q1105
Q1102
D1102
Q1106
LATCH
Q1104
(FROM IC6001(55))
LIGHT ON (H)
Q1014
Q1015
Q1022
Q1023
ERROR
AMP
F1003
F1002
F1001
L1001
Q1005
+4.5V
CONTROL
L1002
L1012
L1005
L1006
L1007
CYLINDER VM
PC+5V
UNREG(TUNER)
REG +4.8V
UNREG
LED +4.5V
EVF +4.5V
REG +4.5V
AF +4.5V
CAM +4.5V
IC1001 (PWM CONTROL)
PWM
CONTROL
DRIVE
ERROR AMP
26
31
17
4
11
6
20
32
38
37
40
45
VDD
REFERENCE
VOLTAGE
REGULATOR
SHORT
CIRCUIT
PROTECTOR
TRIANGLE
WAVE
OSCILLATOR
Q1006
+3.5V
CONTROL
L1004
L1015
L1008
REG +3.3V
CAM +3.5V
REG+3.5V
Q1007
CAMERA
POWER
CONTROL
T1001
D1005
D1006
D1007
CAM +15V
EVF +15V
AF+8.6V
CAM -8V
Q1008
+4.5V
CONTROL
L1003
R1057
(WITH COLOR EVF)
BL+4.5V
EVF+4.5V
Q1020
Q1021
(FROM IC6001(18))
EVF ON(H)
(WITHOUT COLOR EVF)
Q1009
CAP VM
CONTROL
T1002
CAPSTAN VM
Q1010
(FROM IC2001(49))
CAPSTAN SW
(TO JK1201(1))
RF +4.7V
(WITH 2HEAD)
Q1012
Q1013
(WITH 4HEAD)
ERROR
AMP
Q1011
(TO IC6005(8))
BACK UP VOLTAGE
Q1002
(TO Q6026(B))
BATTERY VOLTAGE
D1002
TO/FROM
SYSTEM CONTROL
BLOCK DIAGRAM
(FROM Q6010(C))
POWER ON (L)
Q1001
(TO Q6026(E))
SW UNREG
(TO Q6012(G))
VOLTAGE DOWN
TO SERVO
BLOCK DIAGRA
(TO IC2001(50))
TRIANGLE WAVE
Q1003
BUFFER


RELAY C.B.A.
LCD SHAFT UNIT
LCD C.B.A.
FROM POWER SUPPLY BLOCK DIAGRAM
REG+3.5V
P2 5
P9001 5
P9002 1, 2
FP1201 3,4
L1201
REG+3.5V
LCD+3.V
Q1208
Q1209
ERROR AMP
Q1203
Q1204
Q1207
ON: OPEN
OFF: CLOSE
LCD OPEN/CLOSE SW
FP1201 1
FP1201 2
D1201
Q1202
Q1205
Q1206
LCD NORMAL/ REVERSE SW
ON: REVERSE
OFF: NORMAL
Q1218
LCD+12V
Q1219
ERROR AMP
(TO IC6001 (79))
LCD PANEL (OPEN(H)/CLOSE(L))
P2 11
P9001 11
P9002 14
FP1201 16
Q1221
LCD+7.5V
D1206
Q1222
UNREG
P2 12
P9001 12
FP9002 15, 16
FP1201 17, 18
L1203
T1202
D1204
D1205
LCD+5V
D1203
LCD-15V
Q1220
1 2 3 4 5 6 7 8
FROM POWER SUPPLY BLOCK DIAGRAM
IC1201 (PWM CONTROL)
Q1216
OSC
PWM COMPARATOR
ERROR AMP
DRIVE
Q1217
L1207
VCC
SHORT CIRCUIT PROTECT
1 2 3 4 5 7
BL +4.5V
P2 13
P9001 13
FP9002 17, 18
FP1201 19,20,21
L1202
Q1210
BL+4.5V
Q1211
Q1212
Q1213
Q1214
Q1215


LCD C.B.A.
VIDEO SIGNAL
IC9003 (SYNC SEPARATOR)
(WITH TV TUNER)
V/H SYNC SEPARATION
V-SYNC SEPARATION
AFC
H. COUNT DOWN
H. VCO
X9001
32kHz OSC
IC9004 (INVERTER)
(WITHOUT TV TUNER)
IC9001(RGB SIGNAL PROCESS/LCD PANEL INDICATOR CONTROL)
V COUNTER
V-SYNC SEPARATION
PLL COUNTER
H COUNTER
V/H SYNC SEPA
LCD DRIVE OUTPUT
OEH
STH2
STH1
CPH3
CPH2
CPH1
OEV
STV2
STV1
CPV
QH
REG +3.5V
VR9001
BRIGHTNESS
RELAY C.B.A.
LCD SHAFT UNIT
FROM VIDEO BLOCK DIAGRAM
LUMINANCE
R-Y
B-Y
TO/FORM PROCESS BLOCK DIAGRAM
BRIGHTNESS CONTROL
LCD LOAD
SERIAL CLOCK
SERIAL DATA 0
P2
P9001
FP9002
FP1201
CLAMP
DL
GCA
MATRIX
RGB SW
CONTRAST
CLAMP
OSD SW
GAMMA
LIMIT
INV
DRIVE
R
G
B
TP9002
TP9001
TP9003
LCD +3V
R9004
D9001
R9005
D9002
R9006
D9003
SERIAL D/A CONVERTER
V-COM DC CONTROL
V-COM AC CONTROL
IC9002
OP AMP
LCD +5V
LCD -15V
REVERSE(L/R) CONTROL
REVERSE(UP/DOWN) CONTROL
LCD +7.5V
VCC (+7.5V)
VCC (+3V)
LCD +3V
LCD PANEL UNIT
LCD +5V
LCD +3V
LCD -15V
LCD +12V
FP9001
V-COM
X DRIVE
X DRIVE
Y DRIVE
1 2 3
478479480
233
234
R G B
LCD -15V
Q9005
Q9004
NOT USED
(WITH 3 INCH LCD)
LCD -15V
Q9002
Q9001
(WITH 4 INCH LCD)
(WITH 2.5 OR 3 INCH LCD)
NOT USED
Q9051
T9051
L9051
Q9052
PL9001 BACKLIGHT
C9053/C9055
BL +4.5V
(WITH 4 INCH LCD)
L9101
Q9102
T9101
Q9101
PL9101 BACKLIGHT
C9103


VIDEO SIGNAL
EVF C.B.A.
FROM VIDEO
BLOCK DIAGRAM
LUMINANCE
P3
P902
1
1
IC901 (EVF DRIVE)
6
11
AMP
MIX
AMP
13
SYNC
SEPARATION
VERTICAL SYNC
SEPARATOR
VERTICAL
OSC
VCC
12
HORIZONTAL
AFC
HORIZONTAL
OSC
VERTICAL
DRIVE
VCC
2
9
8
15
14
16
5
1
3
TP901
TP902
VR901
V.SIZE
Q901
H PLUSE
DRIVE
EVF +4.5V
L901
L903
P903
1
P903
2
VR903
BRIGHTNESS
Q902
AMP
G1
H
HV
HK
T901
1
2
3
4
5
HV
6
7
C915
C917
VR902
FOCUS
G2
G3
H.DEFLECTION
COIL
V.DEFLECTION
COIL
P903
4
P903
3


VIDEO SIGNAL
COLOR EVF A C.B.A.
EVF LCD PANEL UNIT
+15V
Q905
L905
Q904
+4.5V
Q903
L902
D901
Q902
IC901 (EVF RGB SIGNAL PROCESS)
VCC
HST
HCK2
HCK1
BL CONTROL
VST
EN
VCK1
H COUNTER
V/H SYNC SEPARATION
PLL COUNTER
V SYNC SEPARATION
V COUNTER
LCD DRIVE OUTPUT
DL
GCA
CLAMP
MATRIX
RGB SW
CONTRAST
BRIGHT-NESS
OSD SW
GAMMA
LIMIT
INV
DRIVE
D/A CONVERTER
V-COM CONTROL
NOT USED
TP901
TP902
TP903
FROM VIDEO BLOCK DIAGRAM
R-Y
LUMINANCE
B-Y
FROM PROCESS BLOCK DIAGRAM
EVF LOAD
SERIAL CLOCK
SERIAL DATA 0
FP3
FP901
FP902
R902
R903
R904
VDD
V-COM
LEVEL COVERTER
H SHIFT REGISTER
VIDEO R
VIDEO G
VIDEO B
VIDEO SIGNAL LINE
SAMPLE HOLDER
V SHIFT REGISTER
PIXEL MATRIX
UP/DOWN BLANK CONTROL
COLOR EVF B C.B.A.
T901
L901
PL901 BACKLIGHT
B901
B902
Q901 (SWITCHING)